COLONY AND PROTECTORATE OF KENYA

REPORT
OF THE
DEVELOPMENT COMMITTEE

VOLUME ONE

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COLONY AND PROTECTORATE OF KENYA

FINAL REPORT OF THE DEVELOPMENT COMMITTEE

HIS EXCELLENCY THE GOVERNOR,
GOVERNMENT HOUSE, NAIROBI

YOUR EXCELLENCY,

Under Government Notice No. 40 of the 5th of January, 1945, Your Excellency appointed a Committee with the following terms of reference:—

> "To prepare development plans for the Colony, taking into account departmental and provincial plans prepared in response to Secretariat Circular Letter No. 44 of 1944."

We have the honour to submit our report.

2. *Members.*—The Committee as originally constituted was as follows:—

The Hon. J. F. G. Troughton, M.B.E., Economic and Development Secretary (Chairman),
The Hon. Sir R. E. Robins, C.M.G., O.B.E.,
The Hon. W. S. Marchant, C.M.G., O.B.E.,
Lt.-Col. Lord Francis Scott, K.C.M.G., D.S.O.,
Lt.-Col. A. C. Hoey, O.B.E.,
H. B. Hamilton, Esq., and
R. B. Pandya, Esq.

Ill-health compelled the resignation of Lt.-Col. Hoey, and, in his place, Major the Hon. F. H. de V. Joyce, M.C., was appointed under Government Notice No. 371 of the 12th of April, 1945. After the departure of the then Financial Secretary on leave prior to retirement, Mr. Troughton's duties as Acting Financial Secretary prevented him from remaining Chairman of the Committee, and the Hon. G. M. Rennie, C.M.G., M.C., Chief Secretary and Member for Development and Reconstruction, assumed the Chairmanship of the Committee in September, 1945, with Mr. Troughton remaining as a member. Mr. A. Hope-Jones, Economic and Commercial Adviser to the Government, was appointed a member under Government Notice No. 259 of the 16th of March, 1946, and the Hon. S. G. Amin was appointed under Government Notice No. 344 of the 2nd of March, 1946, to be temporarily a member of the Committee during the absence from the Colony of Mr. R. B. Pandya.

Mr. E. M. Hyde-Clarke, M.B.E., was Secretary to the Committee from the date of its original appointment until the 4th of April, 1945, when an Interim Report was submitted. Since that date the work of Secretary to the main Committee and to eight out of the nine sub-committees has been undertaken by Mr. K. W. Simmonds.

3. *Meetings.*—Meetings of the Committee were held as follows: 30th January, 1945; 31st January, 1945; 4th April, 1945; 13th September, 1945 (Joint meeting with Development and Reconstruction Authority); 16th April, 1946; 17th April, 1946; 18th April, 1946; 30th April, 1946; 1st May, 1946; 2nd May, 1946; 8th May, 1946; 9th May, 1946; 28th May, 1946; 29th May, 1946; 30th May, 1946; 4th June, 1946; 5th June, 1946; 6th June, 1946; 20th June, 1946; 21st June, 1946; 22nd June, 1946; 6th July, 1946.

Section II—Development Planning in Recent Years

4. Despite many other preoccupations in the early years of the war, the Government devoted much time and thought to the question of development planning. As a result a number of schemes were prepared and in his despatch No. 112 of the 6th of August, 1943, to the Secretary of State for the Colonies, Sir Henry Moore, then Governor, outlined the main directions in which it was contemplated that development should take place in the Colony. He also sought approval for assistance from the Colonial Development and Welfare Vote for the schemes that had been prepared up to that time; these related, *inter alia*, to soil conservation, African agricultural training and teacher training, water supplies, hydrographic and irrigation surveys, and the housing of Africans, and envisaged expenditure of the order of £2,180,000. In his reply the Secretary of State welcomed the constructive approach indicated in Sir Henry Moore's despatch and expressed his full agreement with it on general lines. A number of schemes were thereafter approved for assistance under the Colonial Development and Welfare Act, and early in 1944 the Government considered that the time was ripe for the preparation in detail of a general plan of development. Accordingly the necessary instructions were issued in Secretariat Circular Letter No. 44 of the 29th of April, 1944, copies of which were laid on the table of the Legislative Council on the 2nd of June, 1944. This Circular Letter stressed the fundamental principles on which all plans should be based, namely, *the conservation and development of the natural resources of the Colony, the provision of adequate communications, and the improvement of the standard of living of the people*. It also called for the submission of five-year departmental plans from all the chief departments of the Government before the end of July, 1944, and of provincial plans, framed with due regard to the plans prepared by heads of departments, before the end of December, 1944.

5. The present Development Committee was appointed in January, 1945, for the purpose of preparing development plans for the Colony, taking into account departmental and provincial plans prepared in response to the Circular Letter referred to above.

An Interim Report was submitted by the Committee in April, 1945. This report indicated what planning had already been carried out by the Government up to that time, the magnitude of the task facing the Committee, and the principles by which it proposed to be guided in framing a development policy. The report also contained certain interim recommendations calling for early action. The full text of the Interim Report is at Appendix 1, Volume II. The Government accepted most of the Committee's recommendations; its decisions were published in Sessional Paper No. 2 of 1945, a copy of which is given in Appendix 2, Volume II.

6. In paragraph 30 of the Interim Report the Committee declared its intention, for reasons therein explained, of appointing a number of sub-committees with co-opted members to report on various schemes. The work of these sub-committees was in some cases long and arduous. Leave movements, transfer of officers and changes of personnel caused unavoidable delay in the

submission of some of the reports; as a result the last report was not received by the Committee until April, 1946. The various reports are given in Appendices 3 to 11, Volume II.

7. To complete this review of development planning in recent years, it is necessary to refer to the Development and Reconstruction Authority which was constituted with effect from the 1st of August, 1945, with the following powers and duties: —

(1) To organize and superintend the execution of works and projects of reconstruction and development in accordance with approved plans communicated to it, and for that purpose to give directions to all departments or groups of departments of the Government;

(2) to carry out specific works or undertakings by contract, and to negotiate appropriate contracts for the purpose, including, if it is found practicable, some means of re-negotiation of contracts during their currency on account of the impossibility of making firm contracts at the present time in the absence of dependable information as to prices, shipping and many other factors;

(3) to assign priority of execution as between works and projects, having particular regard to the paramount importance of immediate and vigorous execution of projects for the conservation of the soil and the preservation and improvement of water supplies;

(4) to control the expenditure of allocated funds and to allocate other funds placed at its disposal by authority of the Legislative Council as it may consider proper for the execution of approved works and projects;

(5) to purchase stores and plant in bulk against an unallocated stores account or in detail in respect of particular works;

(6) to engage such staff as it may require for its own operations or in respect of works and projects;

(7) to ensure that in all works and projects, whether carried out departmentally or by contract, attention is given to the fullest practicable use of mechanical appliances, economy of labour and adequate wages and working conditions;

(8) to collaborate with the Commissioner of Labour and the Demobilization and Civil Reabsorption Organization so as to ensure that sufficient attention is given to the needs in the matter of employment of men and women discharged from the Services and special civil agencies engaged in war work, and to organize labour units or formations for particular purposes as may appear desirable;

(9) to report to the Governor in Council in any case in which it considers that departments or other official agencies are not discharging satisfactorily the functions assigned to them by the Authority, and to propose remedies;

(10) to make an annual report to the Governor in Council, to be laid on the table of the Legislative Council, upon the progress of all works and projects for which it is responsible, and the state of the funds at its disposal, and to give an outline of the ensuing year's work;

(11) to propose new works or projects as it may consider desirable, and to request that they may be investigated and planned.

8. The duty of co-ordinating development plans is one of the functions of the Development and Reconstruction Authority and the Committee makes the assumption that during the ten-year period covered by its report revision of development plans in the light of changing circumstances will be necessary. The Committee therefore recommends that the Development and Reconstuction Authority should form a Planning Committee consisting of the members of the Authority and such co-opted official and unofficial "planning members" as are considered appropriate. The Planning Committee would have referred to it questions calling for major revision of development plans and would meet when the chairman of the Development and Reconstruction Authority thought necessary.

Mr. Amin considers that the additional planning members of the Planning Committee should be appointed permanently or for a definite period for all the planning work of the Committee and should not be co-opted for a specific purpose or subject only.

Section III—The Priniciples Governing Development

9. In the Interim Report it was laid down as a basic principle of development planning that its object was—

> "to use the natural resources of the country, including man power, in a manner calculated to increase the national income of Kenya in the shortest space of time so as to raise, as soon as possible, the standard of living of the majority of the inhabitants.",

and we have decided that every scheme should be examined against this background. This principle was subsequently modified to the extent that it was recognized that the execution of certain other projects would be necessary, even if they did not satisfy this test.

10. The basic principle laid down and quoted above has been the touchstone by which we have tested the recommendations made by the various sub-committees appointed to consider the more important aspects of development planning. On the basis of the criteria laid down in the Interim Report, we have established priorities for development in the light of the recommendations made by the sub-committees.

Section IV—The Funds Available

11. In contemplating a programme of development, it is necessary to remember that there must be two limiting factors—

(*a*) the funds available for the purpose of financing capital expenditure, and

(*b*) the ability of the Colony's taxable capacity to bear the consequential recurrent expenditure which is bound to arise on any expansion of the services provided by the Government.

12. In considering the funds available for capital purposes we take as a basis for examination the tentative estimate included at page 191 of the

Colony's 1946 Estimates of the total amount which it was hoped would be available for payment into the Development and Reconstruction Fund during the next ten years. This estimate is as follows:—

	£
Loans	5,000,000
Colonial Development and Welfare Vote, say ...	4,500,000
Excess Profits Fund, say	2,000,000
Forest Replanting and Development Fund	400,000
Balance of War-time Contingency Fund	500,000
Contributions from Revenue	2,500,000
Total:	£14,900,000

13. As regards the figure of £5,000,000 representing the total loans to be raised, we would observe that this represents approximately a doubling of the present funded public debt of the Colony, exclusive of debt incurred on behalf of the Railway Administration and that incurred on account of His Majesty's Government in the United Kingdom by the issue in East Africa of War Bonds. The net funded public debt of the Colony at present amounts to £4,928,792 but this will be reduced by £754,614 to £4,174,178 before the end of 1946 on the assumption that the Colony's share of the 1921 loan will be repaid in full, as is we understand intended. A further loan falls due for repayment in 1948 but this will not affect the Colony's net funded public debt position, as the whole amount has been re-lent to the Railway Administration. The 1928 loan, of which the Colony's share is £659,669, falls due for repayment in 1950. *On repayment of this loan the Colony's net funded public debt would amount to £3,514,509 at the end of 1950, provided that no further borrowing took place in the meantime.* The borrowing of an additional £5,000,000 during the next ten years would therefore give a net funded debt of approximately eight and a half millions. Bearing in mind that the Colony's present revenue amounts to over six and a half millions, we do not regard this figure as other than conservative. Indeed, it represents a modest sum for a Colony which will at the end of the ten-year period have carried out a programme of development and reconstruction which should have led to a material increase in the national income and the taxable capacity of the Colony.

The Committee wishes to emphasize that a large portion of this loan will be directly revenue-producing, and that such loan funds, together with the self-reimbursing loans mentioned in the next paragraph, will be invested, for the most part, in projects calculated to increase the national income and not in unproductive works.

14. While we feel that it might reasonably be held to be imprudent to increase the net public debt of the Colony much beyond the figure that we have suggested, on the ground of uncertainty as to the ability of the revenue to meet consequential annual charges, we nevertheless consider that it would be justifiable to borrow considerably more, provided that the greater part of the excess of the total funded debt over a figure of, say, nine or ten millions was directly reimbursed by other (local) administrations or by local authorities. It is true that moneys borrowed by the Colony for the purpose of re-lending

to other authorities, in certain cases (e.g. when not applied to such trading purposes as the provision and sale of water) ultimately constitute a charge on the rateable or taxable capacity of the country. Nevertheless, if the amounts borrowed and re-lent to those authorities are closely related to their existing revenue, and if the capital expenditure which they are designed to meet is of a type that will lead to a direct increase in the rateable capacity or the revenue-earning capacity of those authorities sufficient to meet annual charges, then there is a case for additional borrowing by the Government. We have accordingly envisaged in our report that the Government will borrow a further sum of £2,000,000 for the purpose of direct re-lending to other authorities.

15. We would here state that it is our strong opinion that as much as possible of the loan money should be raised locally. We wish to stress that, while interest and sinking fund payments on such loans are still a burden on the revenue, they are not a burden on the national income because they represent internal transfers of money within the Colony and do not affect the balance of payments as between the Colony and overseas. Moreover, the payment of income tax by investors on the interest paid in respect of local loans reduces the net effect on the revenue caused by annual loan payments.

16. In making this recommendation we appreciate that the local loan floated in 1945 was far from successful. We understand that this lack of success was largely attributable to the fact that at the time that the loan was floated arrangements had not been made under which investors could dispose of their holdings readily if they required the cash. This was subsequently partly rectified by arranging for a quotation on the Johannesburg Stock Exchange.

17. We wish to stress the necessity for making adequate provision for marketability in the case of all future local loans, and we suggest that this can be achieved by the Government making arrangements with the Banks under which the latter will undertake to purchase, at a price agreed between them and the Government, any stock offering and will be prepared to sell stock to buyers at a slightly higher price. We have no doubt that the commercial banks would be prepared to co-operate with the Government on these lines. A further reference to this matter is made in part (6) of Section XV of this report.

18. A further contributory cause of the partial failure of the 1945 loan was that the particular projects to be financed from its proceeds were not clearly defined. They were set out as—

(*a*) contributions to sinking funds in respect of the Colony's loans;

(*b*) such other purposes as the Governor might, with the approval of the Legislative Council, direct.

Such a definition of objects could hardly be expected to arouse enthusiasm in the minds of potential investors, and we consider that in the case of future borrowing the objects should be clearly stated in the prospectus.

19. As regards the estimate of £4,500,000 from the Colonial Development and Welfare Vote, this figure was inserted in the Estimates before the Secretary of State had decided upon the method of allocation of the total Vote. The Secretary of State has now decided that a total sum of £3,500,000 will

be made available from the Vote for the Colony. In addition he has decided that a sum of three and a half millions will be allocated to East Africa for regional schemes, from which East Africa as a whole and not any one territory alone will benefit. It is therefore fair to assume that Kenya will benefit to the extent of at least £1,000,000 from this regional allocation.

20. Plans for inter-territorial schemes are being prepared under the aegis of the Governors' Conference organization, but full details are not yet available. They cover a wide field and will involve heavy expenditure, as the following list of inter-territorial schemes (other than research schemes) at present approved, or under consideration, shows:—

Combined Engineering and Traffic School, Post and Telegraphs Department.
Ex-servicemen's Training Schemes.
Improvements to Eastleigh airfield.
Geological Survey.
Development of Meteorological Services.
Radio Communications.
Great North Road.
Phosphatic Fertilizer Development.

21. Apart from the Colony's allocation of three and a half millions and the regional allocation of three and a half millions, large sums have been earmarked from the Vote for central schemes controlled from London. These include, on the one hand, schemes for the development of higher education, from which Makerere College and consequently all the East African territories will benefit, a scheme for a topographical and geodetic survey of the Colonial Empire and other projects, and, on the other hand, schemes for a variety of research projects, since that portion of the Vote earmarked for research purposes is being controlled centrally. A portion of the research vote will be available for direct expenditure in Kenya and we have assumed, for purposes of this report, that it will be available to finance schemes up to a total of £605,000 at least. This figure must be regarded as a tentative estimate.

22. Advice tendered by the Commissioner of Income Tax indicates that the amount finally accruing to the Development and Reconstruction Fund from the Excess Profits Fund might reasonably be expected to exceed by half-a-million pounds the figure of £2,000,000 given in the 1946 Estimates.

23. As regards contributions from revenue, although it was made clear by the Standing Finance Committee that the contribution of £300,000 for 1946 did not bind the Legislative Council in future years, we trust that it will in fact prove to be possible to make annual contributions of this order. Indeed, it will be evident that unless such contributions are forthcoming, a further curtailment of the development programme below the modest level proposed in this report will be necessary. In support of such a contribution we would mention that many items which would normally be financed in the ordinary budget, especially under the Public Works Extraordinary head, will be financed from the Development and Reconstruction Fund. We have, therefore, put total receipts from revenue at £3,000,000, although we recognize that it may not always be possible to maintain a contribution from revenue as high as £300,000.

24. In addition we were informed that account should also be taken of the sum of £109,000 in respect of the War Risks Insurance Fund, representing in round figures the Colony's half-share of the War Risks Insurance Fund upon winding up.

25. The revised estimate of funds likely to be available is therefore:—

		£
Total loans for general purposes		5,000,000
Total loans for self-reimbursing expenditure		2,000,000
Colonial Development and Welfare Vote (Colony's block allocation)		3,500,000
Estimated expenditure during first quarter of 1946 in respect of Colonial Development and Welfare Vote Schemes (*see* table at end of this section) £27,378, say £27,000		27,000
Colonial Development and Welfare Vote (Inter-territorial allocations)		1,000,000
Colonial Development and Welfare Vote (central allocation)		605,000
Excess Profits Fund, say		2,500,000
Forest Replanting and Development Fund		400,000
Balance of War-time Contingency Fund		500,000
Balance of 1945 Local Loan (*see* paragraph 52 below)		250,000
Contributions from Revenue		3,000,000
War Risks Insurance Fund		109,000
Railway Loan for Housing Fund (*see* paragraph 199 below)		300,000
Total:		£19,191,000
Less		
(i) Colonial Development and Welfare Vote Inter-territorial allocation ...	£1,000,000	
(ii) Colonial Development and Welfare Vote, Central Allocation ...	£605,000	
(iii) Loans for self-reimbursing expenditure	£2,000,000	
		£3,605,000
Estimated net amount available for Kenya Development and Reconstruction Fund from sources other than items (i) and (ii) above and excluding item (iii)		£15,586,000

SUMMARY OF RECOMMENDATIONS

Paragraph 15.—Loan money should as far as possible be raised locally.

Paragraph 17.—Adequate provision should be made for marketability of future local loans.

Paragraph 18.—Necessity for clear definition of objects of future local loans.

SUMMARY OF FINANCIAL IMPLICATIONS

Paragraph 25.—Estimated net amount of Kenya Development and Reconstruction Fund available for expenditure during the ten-year period: £15,586,000.

TABLE REFERRED TO IN PARAGRAPH 25

*Schedule of Approved Kenya Schemes under the Colonial Development and Welfare Act, showing *Expenditure for First Quarter of* 1946 *Chargeable against the C. D. & W. V. under the First Act but not Chargeable against the Colony's Block Allocation of* £3,500,000 *under the Second Act*

Scheme No.	Details	Expenditure During 1st Quarter, 1946
		£
439	Improvement and Investigation of Water Supplies in Native Areas	12
479	Water Supplies and Cattle Dips on Stock Routes	—
516	Sisal Research Station, Thika	31
559	Geological and Mineral Survey	337
D 268	Mombasa–Tanga Road Realignment	—
D 269	Tana River Irrigation Survey	535
D 271	Thomson's Falls Agricultural Station and Uaso Nyiro Irrigation Sub-station	—
D 292	Agricultural Schools and Teacher Training Centres, Maseno and Embu	1,050
D 299	Soil Conservation and Agricultural Development	6,471
D 300	Water Supplies—General	1,700
D 324	Housing of Government African Employees, Nairobi	8,418
D 355	Education of Women and Girls	1,418
D 362	Housing of Government African Employees, Mombasa	5,736
D 475	Group Hospital, Nairobi	375
D 535	Training School for Indian Teachers	—
D 521	Water Supply, Uaso Kedong	—
R 24	Hydrographic Surveys	495
R 24A	Hydrographic Surveys (Staff)	800
R 37	Translation of Anthropological Works	—
R 108	Malaria Control in Highlands	—
	Total:	£27,378

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*Estimated expenditure

Section V—Priorities

26. In dealing with the funds likely to be available, the Development Committee has taken the view that, for reconstruction purposes as well as for development purposes, block sums should normally be allocated. We consider that, subject to such general principles and specific priorities as we may in certain cases recommend for adoption in the light of the criteria referred to in paragraph 9 above, the determination of priorities inside those block allocations and, in addition, the orientation of policy, are an appropriate duty of the respective Members of the Executive Council responsible for groups of Departments, subject always to the approval of expenditure by the Legislative Council. Members would consult, where necessary, with the Development and Reconstruction Authority and with special bodies, such as the Central Roads and Traffic Board, which are by their constitution fitted, and indeed intended, to deal with such matters. They would also take advantage of such expert advice as is available.

27. The Committee wish to emphasize the view, endorsed in their comments on the report of the Sub-committee on Industrial Development, that without detriment to economic progress much of the expenditure contemplated can be timed so as to constitute a counteracting force to the downward phase of the trade cycle. This is particularly true of certain parts of the building programme (*see* Section XV (1)).

28. Turning to development projects, by the criteria referred to in paragraph 9, the priorities are—

(*a*) the proper utilization of the soil (including minerals), water and forests;

(*b*) the proper utilization of the man power of the country (which necessarily includes industrial development) and, in particular, the better utilization of the African man power available.

29. Included in (*a*) are soil conservation and reclamation, good husbandry and expanded veterinary services, together with the development and conservation of water supplies and the proper development and management of the Colony's forestry estate. Also under (*a*) falls the extraction of any mineral resources available in the country; *as an urgent necessity the first step towards this end must be a comprehensive geological survey.*

30. Under (*b*) the proper utilization of man power implies the development of adequate but not luxurious health services and education, in particular the education of African children of both sexes and the mass education of African adults to a stage at which they can understand, at least in part, the problems which modern conditions create. The Committee would stress the point that unless the African mind can be brought to the pitch of being able to comprehend the broad requirements of a rehabilitation and development programme and, more particularly, unless the principle that "*all must work*" can be brought before the African in a convincing and effective way, there is no alternative to economic disaster. In this connexion it is important to appreciate that there must be in regard not only to African educa-

tion but to European and Indian education also, a bias on the technical and vocational side. By the criteria referred to in paragraph 9, it is by giving a measure of education to the illiterate and by the provision of technical and vocational training for the suitable minority of all races that the economic prosperity of the country at its present stage of development will be most rapidly furthered.

31. As an aspect of the problem of the proper use of the man power of the country we would mention the fact that it is the accepted policy of the Government to employ Africans, wherever possible, in suitable posts in Government service. This policy has, in our view, a double significance; on the one hand it provides an outlet for the growing skill and experience of the African people and for their direct association with the development of the country, and on the other hand it is a means of reducing the cost of the public services of the Colony and thereby enabling those services to be expanded.

32. In regard to the development of adequate but not luxurious health services, from the economic point of view it is self-evident that the most substantial dividends are yielded by a concentration of resources on preventive rather than curative medical services. By this we mean an effective concentration of our limited resources on keeping a man fit—in other words getting at him before it is necessary for him to go to a hospital and so keeping him in action as a unit in the battle to increase the national income. The Committee feels that it has a duty to call attention to this important economic principle.

33. Views have been put before us as to the problems faced by the Colony as a result of the growth of population which has occurred and the further increases that are expected. The Committee has, therefore, had prominently in mind the issue posed by an increasing population. From the economic point of view the decisive factor is whether resources and man power can be combined in a sufficiently effective manner to increase wealth in a more favourable ratio than population. Whether such a desirable end can be achieved depends upon the full utilization of existing physical resources and the discovery of new raw materials (i.e. through a comprehensive geological survey) together with the degree of success achieved by the gospel of "all must work". A further relevant point is that in certain countries it has been proved that a rise in the standard of living has resulted in a fall in the birth rate and a more stable population.

34. Under priorities (*a*) and (*b*) are certain priorities of joint significance. Under proper soil and man power utilization come settlement and resettlement. First come African settlement and resettlement accompanied by improved agricultural methods. Non-African settlement, of equal importance, falls into two categories. The importance of settlement for productive purposes needs no emphasis since it is obvious, but the importance of *"residential settlement"* as being complementary to *"productive settlement"* cannot be neglected from an economic point of view. Residential settlement is of great value to the Colony. Residential settlers from abroad bring in capital and often income, making use of the greater part of their purchasing power in the Colony. Residential settlers previously employed in professional, productive

or administrative work in the Colony spend the pensions they have earned, or the resources they have accumulated in Kenya, and so put back into the economic blood stream of the Colony what they are taking out. Residential settlers of both types assist in providing an expanding and stable market for local agricultural and other products, they stimulate employment (as do *all* settlers), the building industry as well as the retail trade, and they add considerably to the taxable capacity of the country. Residential settlers provide a continuing invisible export. Closely allied with residential settlement as an invisible export is the encouragement of tourists and here, from a development point of view, expenditure is justified.

35. In regard to priorities (*a*) and (*b*) (the proper utilization of the soil and man power of the Colony), certain improved *services* merit a high priority. The first is improvement in communications but here it must be laid down as a principle that improvements in communications in places where already an adequate alternative means of communication exists must have a low priority. The order of priorities in the improvement of transport is, we consider:—

(1) new transport facilities required to open up new areas possessing development potentialities;

(2) the extension and, where necessary, improvement of transport facilities where the existing facilities are inadequate in view of either the traffic currently offering or the prospect of increased traffic;

(3) the provision of short, radial roads to places of particular interest to tourists.

36. Industrial development is a valuable, although limited, means of absorbing surplus population (conjointly with large scale settlement and resettlement schemes for Africans); furthermore, as a means of increasing the national income of the Colony, it possesses a priority deriving from priorities (*a*) and (*b*) and of equal importance. The phrase "Industrial Development" is, however, vague, and it is important that there should be no misunderstanding of the nature of the development contemplated. Secondary industries in Kenya which derive principally from the primary production of the country are healthy and should be encouraged. A second type of healthy industrial development depends primarily on the importation of non-domestic capital and skill. Expenditure on suitable publicity, directed towards those in the United Kingdom and other industrial countries who have capital to invest and are looking for profitable openings will, in the opinion of the Committee, be money well spent.

37. Before commenting on the Sub-committees' Reports individually, it is necessary to make reference to certain points of general application. The Committee takes it as being self-evident that, inasmuch as firm estimates of detailed costs cannot be made for a ten-year period, particularly at a time when the future of prices cannot be forecast, their proposals must, to that extent, be tentative. Further, the Committee is of the opinion that some modification and review will be necessary at intervals during the ten-year period in the light of experience, as it is clear that flexibility is essential.

The division of the annual estimates of the Colony into an ordinary Budget on the one hand and a Development and Reconstruction Budget on the other affords the necessary opportunity for such review, and the Committee is confident that full advantage will be taken of it. It is, moreover, necessary to emphasize that the amount of progress which is likely to be achieved in the first few years of the plan is, other economic considerations apart, dependent crucially upon the availability of materials and skilled man power.

38. We would in particular commend to the attention of all concerned the desirability of employing ex-soldiers to the maximum extent possible.

Section VI—Comments of the Committee on the Report of the Joint Sub-Committee on

AGRICULTURAL AND VETERINARY SERVICES

39. The Development Committee endorses in principle the recommendations contained in the Report of the Joint Agricultural and Veterinary Services Sub-committee and, subject to the comments made hereafter, supports the expenditure proposals in the Appendices to the Sub-committee's Report. Under the new administrative arrangements detailed in Sessional Paper No. 3 of 1945, both the Agricultural and the Veterinary Departments are the responsibility of the Member for Agriculture, Animal Husbandry and Natural Resources. Many of the recommendations made by the Sub-committee have already been acted upon; in other cases the Member has alternative schemes in hand. The Report is at Appendix 3, Volume II.

The Committee wishes to make it clear at this stage that, while the development of water resources is of the highest importance to agriculture and animal husbandry, no detailed mention of it is made in this Section of the report as it is fully treated under Section XIII.

40. The Committee notes in regard to the marketing of native produce that the Commissioner for the Development of Marketing in Ceylon is to visit the Colony in the near future with a view to advising on the organization of native marketing in Kenya. The Committee recommends the appointment proposed in paragraph 9 of the Sub-committee's Report of a Native Marketing Officer but considers that it should be deferred until such time as the officer referred to above has reported.

41. The Committee emphatically endorses the comments of the Sub-committee about the vital importance of establishing a satisfactory system of marketing live stock to take the place of the present quota system. If the complete destruction of pastoral and semi-pastoral areas is to be averted, if the stock population in such areas is to be adjusted to sound farming practices, properly organized live stock marketing is essential—urgently essential. The Committee was informed in this connexion that the present quota system of obtaining live stock for slaughter from the native areas would come to an end by the 31st December, 1946, and that the Member for Agriculture, Animal Husbandry and Natural Resources had under examination alternative proposals. The Committee had the advantage of discussing the matter with the Member and learned that he favoured the eventual introduction of a system of live stock marketing similar to that suggested in paragraph 15 of the report of the Sub-committee. In his opinion conditions were not at present suitable for the inauguration of the weight and grade system of purchase. He contemplated, therefore, the early institution of a system of public auctions with certain restrictions. The Committee does not consider it necessary to try to assess the advantages and disadvantages of the "weight and grade" system advocated by the Sub-committee in paragraph 13 of its report, as compared with those of the "public auction" system contemplated by the Member. It does, however, stress the vital importance of establishing a satisfactory live stock marketing system to take the place of the present arrangements; any such system must ensure that cattle are disposed of in adequate numbers to

relieve the pressure of live stock on the land. This problem will become of even more vital importance when the extension of dipping facilities (*see* paragraph 45 below) reduces calf mortality. The necessity of ensuring that enough cattle are forthcoming to provide meat as part of a balanced diet to all who need it is a secondary but also very important consideration.

42. The Committee recommends the provision of a sum of £50,000 for the construction of a central abattoir, as proposed in paragraph 16 of the Sub-committee's report. It may, however, prove that the present municipal abattoir in Nairobi, suitably extended and improved, will meet the need, and the Committee recommends that, as a first step, the matter should be investigated and discussed with the Nairobi Municipal Council.

43. In regard to Veterinary Services generally, the Committee endorses the recommendations of the Sub-committee. It is disappointed to learn that not many Africans have so far decided to seek their careers in the Veterinary Department; in view of the great importance to the Colony of having an adequate number of trained Africans in the Department, the Committee recommends that every effort and inducement should be made to encourage Africans to follow a veterinary career. In particular it recommends—

(i) that the scale of camping equipment issued to Veterinary Assistants should be improved;

(ii) that adequate transport facilities should be provided for such officers;

(iii) that the headmasters of African secondary schools should be approached by the responsible authorities with a view to encouraging them to present the attractions of a veterinary career to their pupils.

44. In regard to contract veterinary services, the Committee noted the remarks of the Director of Veterinary Services in Appendix M to the Sub-committee's Report and recommends that when qualified veterinary officers are forthcoming in larger numbers the scheme for contract services, as set out in the appendix, should be examined in the light of the number of veterinary surgeons available at that time. With a view to increasing the supply of qualified veterinarians, the Committee recommends the continuance and expansion of the bursary system to assist suitable European, Indian, and in due course African, youths to obtain the training necessary for them to follow such a career. The Committee considers that if Asians or Africans with the necessary professional qualifications, and otherwise suitable, become available to fill higher posts in the Department, full use should [illegible] made of them. Mr. Amin is of the opinion that this policy, so far [illegible] to Asians, should be applied to all Departments and not only to [illegible]nary Department, as he considers that Africans are gradually tak[illegible] of Asians in the two main avenues of employment for Asian [illegible] clerical work and trade.

45. We are informed that the provision of adequ[illegible] facilities in the native areas is essential if any substantial [illegible] and mixed farming is to be achieved. Finance is, however, [illegible] ticularly as it appears that the figure of £200,000 (mentioned [illegible] of the Sub-committee's Report) for the capital cost of 1,0[illegible]

under-estimate and may have to be increased later. We consider it essential that early steps should be taken to evolve a cheaper method of building dips. We also recommend that the cost of providing such dips should be borne by loan funds in the form of loans to local authorities. Loan charges (interest and sinking fund) and recurrent expenditure should be borne by the local authorities, while revenue accruing from the operation of the dips should be credited to the ordinary revenue of such authorities.

46. In regard to native agriculture, including the reclamation and proper utilization of the land, settlement and resettlement, the Committee is in agreement with the views expressed in paragraphs 19 to 53 of the Sub-committee's Report. It notes that the policy of the Government as regards native areas has been laid down in Sessional Paper No. 8 of 1945, and is informed that this policy has been expanded and interpreted in recent administrative instructions issued by the Member for Agriculture, Animal Husbandry and Natural Resources. The Committee is also informed that Your Excellency and the Member for Agriculture have carried this matter still further and that a comprehensive statement on the whole agrarian problem may be published in the near future. It is therefore hardly necessary for the Committee to comment further on the general lines of agricultural policy, except to state that it is in full agreement with the statement of the Sub-committee in paragraph 19 of the Report that the most important domestic question affecting the future development of this Colony is the rehabilitation of the native areas and the reform of native agricultural practice. In recommending a block allocation of £3,000,000 (*see* paragraph 48) for African Settlement and the reconditioning of native areas, the Committee had this point prominently in mind.

47. In paragraphs 40 and 41 of the Sub-committee's Report, it is suggested that, if the areas for the accommodation of the surplus population from overcrowded districts prove incapable of absorbing the full number to be accommodated, the surplus might be absorbed in employment either in European agriculture or in industry. In this connexion the Committee wishes to point out that if the reconditioning programme for the native reserves is to be a success many Africans living in the reserves should, for considerable periods, be fully occupied in such work, but the Committee wishes to make it quite clear that the outlets of non-native agriculture and industry, while being of great assistance, cannot by themselves be sufficient to deal with the problem.

48. The Committee considers that the public of this Colony should be made to realize clearly the fact that there is little prospect of completing during the next ten years the whole task of reconditioning the native areas of the Colony, and that a continuation of this work for many years thereafter will be inevitable. The possibility of speeding up expenditure to counteract the deflationary effects of economic recession should not be neglected by those responsible for carrying out the programme. The Committee recommends that for the ten-year period a block allocation of £3,000,000 should be made for the reconditioning of the native areas (including the Machakos District, to which reference is made in paragraph 27 *et seq.* of the Sub-committee's Report), and for African settlement and resettlement. Control of this expenditure would lie with the Member for Agriculture, in consultation with the Development and

Reconstruction Authority. The Committee also recommends that the sum of £1,500,000 should be allocated for the comprehensive ten-year scheme for soil conservation and general agricultural development in both native and non-native areas, which has already been approved in principle as a scheme under the Colonial Development and Welfare Act. The original estimate was £974,243.

49. In view of the large sums which it recommends should be spent on reconditioning the native areas, the Committee attaches the greatest importance to the remarks in paragraphs 19 and 25 of the Sub-committee's Report, in which it refers to the need for insistence upon sound agricultural practices in the native areas and for the rigorous enforcement of such practices in the day-to-day business of agriculture. Money spent on the rehabilitation of the native areas will be so much money wasted, if sound agricultural practices are not adopted and, if necessary, enforced. The Committee therefore recommends that the Government should take all necessary steps in this regard.

50. The Committee wishes to emphasize in this connexion the need for more African agricultural instructors, who form a most useful medium for imparting to the African information on agricultural matters and for assisting him to adopt sound farming practices. It is disappointed to learn that far too few Africans are coming forward to take up a career in the Agricultural Department, and it recommends that all possible steps be taken by the Government to remedy this state of affairs. Reference is invited in this connexion to paragraph 43 above.

51. The Committee is of the opinion that efforts to induce better methods of animal husbandry and agriculture should be directed to the alienated areas as well as to the native areas.

Terracing services (at present on a limited scale) are provided in the alienated areas by the Government on payment for the use of the tractor, and the terracing of farm lands will no doubt be pushed forward as rapidly as possible. It must, however, be emphasized that this is only one part of the improvement necessary and without improved practices in other directions it will, of itself, be of little avail. The objective must be to conserve and improve the soil resources of the Colony, thus increasing crop yields, and, in the final analysis, to raise the national agricultural income of the Colony as speedily as possible.

52. So far as European settlement is concerned, the Government has accepted the recommendations of the Settlement Schemes Committee, involving capital expenditure of £1,600,000 over a relatively short period. It has already been decided that, subject to the approval of the Legislative Council, a sum of £250,000 from the proceeds of the 1945 local loan should be made available for this purpose, leaving a balance of £1,350,000 to be covered by future borrowing.

As regards Indian and Arab settlement, the Committee has noted paragraphs 24 *et seq.* of Sessional Paper No. 8 of 1945, and understands that Indian and Arab Settlement Boards have been appointed and are preparing schemes. In the absence of any firm estimates it recommends a block allocation of £100,000.

53. The Committee is in agreement with the accepted policy of the Department of Agriculture that the future of farming in Kenya, both native and non-native, must, if it is to develop along healthy lines, be based on a balanced system directed always towards maintaining and improving the fertility of the land, and that the basis of all types of farming (other than plantation crops) must be live stock. This will take the form of mixed farming in the higher rainfall areas, with dairy farming or dairy ranching in the medium and low rainfall areas. It is clear that a sound agricultural economy must in all cases, including plantations, be based upon the principle of putting back into the soil at least the equivalent of what is taken out. The Committee is conscious of the incalculable harm which has been and is still being done to the prime asset of the Colony by methods which can only be described as suited better to mining than to agriculture.

54. In regard to the question of the application of the Fencing Ordinance, the Committee endorses the comments of the Sub-committee in paragraphs 87 and 88 of its report and notes that the Member for Agriculture has recently appointed a committee to examine this question. It considers, therefore, that any detailed recommendations would be inappropriate at this stage, and recommends that any funds required for fencing under the provisions of the Fencing Ordinance should receive consideration as possible charges against the unallocated block sum referred to in paragraph 231.

55. The Sub-committee did not give detailed attention to the question of the storage of grain because it was informed that the whole question would be examined by an *ad hoc* committee. We understand that this *ad hoc* committee has reached the conclusion that storage in suitable form should be provided. In regard to finance, and on the assumption that this is a development project, the Committee considers that the question of approaching the Banks' Development Corporations should be examined.

56. At a late stage of the Committee's deliberations (after paragraph 44 of this Report dealing with contract veterinary services had been drafted) its attention was invited to certain proposals that the Director of Veterinary Services had recently made for the establishment of Animal Health and Improvement Centres in the settled areas on the basis of contract services. These proposals are described by the Director as an attempt to discover by experiment a solution of the difficult problem of providing improved veterinary services in the present state of development of the live stock industry. Each centre would be staffed by a Veterinary Officer, a Stock Inspector, the necessary African assistants, and clerical staff to keep records. The staff would perform—

(*a*) all normal district veterinary duties in the area;

(*b*) panel practice for the control of certain specified diseases, e.g. the genital diseases of dairy cows, mastitis, calf diseases;

(*c*) the control of fertility;

(*d*) insemination;

(*e*) milk recording.

The Director proposes that for accounting and records each centre could be treated as a self-contained unit, and a yearly appreciation made of expenditure, direct revenue and farm production. It would then be possible at an early stage to decide whether such an intensification of services was producing the desired result in the shape of increased efficiency in the industry and whether additional centres should be started.

57. Capital expenditure of approximately £2,200, apart from the cost of staff quarters, would be required at each centre and recurrent charges of approximately £2,900 a year. The Director estimates that direct revenue might be of the following order in the early stages:—

	£	s.
Panel contracts: 1,000 cows at Sh. 5 per annum	250	00
Inseminations: 900 cows at Sh. 7/50 per annum	337	10
Milk recording: 200 cows at Sh. 5 per annum	50	00
	£637	10
Less cost of vaccines, milk-testing reagents, etc., say ...	50	00
	£587	10

58. The Committee has carefully examined these proposals and considers that they are worth a trial on a small scale. It therefore recommends that a sum of £10,000 be provided for capital expenditure (including provision for staff quarters) on two such centres, and that £5,800 per annum for five years, £29,000 in all, be provided for recurrent expenditure. It also recommends that the scheme should be kept constantly under review, and that, if the centres do not find an increasing measure of support from the local farming community, or if satisfactory results do not show themselves, the scheme should be terminated at the end of the five-year period, or even before that time, if necessary. Should the scheme prove successful the Committee visualizes the progressive assumption by farmers of greater financial responsibility for such centres, and in due course the expansion of the scheme as funds become available.

RESEARCH

(i) *Tsetse Fly Research*

59. In this field of research, the Committee welcomes the reorganization of the Tsetse Committee which has recently been carried out by the Member for Agriculture, Animal Husbandry and Natural Resources, which should have the effect of integrating the efforts of the various bodies at present concerned with tsetse fly and both human and animal trypanosomiasis. It is hardly necessary for this Committee to stress the fundamental importance of this work from an economic and development standpoint.

60. The Committee endorses the proposals set out in Appendix H to the Sub-committee's Report for the establishment of two tsetse fly and trypanosomiasis experimental sub-stations.

(ii) *Veterinary Research*

61. The Committee notes that plans for the reorganization of veterinary research on an East African basis are at present under consideration. The Committee therefore confines its observations to the recommendation that, as regards problems of veterinary science common to East Africa (and they are in the great majority), they should be dealt with by an East African research organization. The Committee recommends, however, that local problems requiring research should be dealt with on a Kenya basis and that Kenya research officers should be seconded for that purpose and be given all necessary facilities in the East African Institute at present under consideration.

(iii) *Agricultural Research (General)*

62. The factors governing local and centralized veterinary research apply with equal force to agricultural research. The Committee supports the proposals made in paragraphs 60 to 65 of the Sub-committee's report for the provision of local agricultural research facilities and considers that this is one of the most important forms of assistance that the Government can provide.

(iv) *Pasture Research*

63. As regards the proposals contained in paragraphs 66 to 68 of the Sub-committee's Report, dealing with research into the utilization of pastures, it is the view of the Committee that if inter-territorial agreement cannot be reached at an early date as to the organization of a common research service, then Kenya should act unilaterally, since increased knowledge of the principal crop of the Colony is urgently necessary and vital to the rehabilitation of the land.

(v) *The Objectives of Research*

64. On research in general, the Committee, while recognizing that research cannot be directed solely to practical ends without crippling the research worker, wishes to point out that in accordance with the criteria of paragraph 9, emphasis must as far as possible be laid upon the development of projects which show promise of having practical application.

65. In concluding this section on agriculture and veterinary services the Committee wishes to draw the attention of the Government to the fact—referred to in paragraphs 2 to 4 of the report of the Sub-committee—that it is vital that stable external prices for those primary products which make up the greater part of the Colony's domestic exports should be achieved and maintained. Unless this can be done the national income, and therefore the taxable capacity of the Colony, will be reduced; in fact, existing services cannot be maintained, still less increased, unless a reasonable level for the prices of such products can be secured. Moreover, failure to secure a proper export price level will adversely affect the balance of payments as between the Colony and overseas with results which may be disastrous.

The Committee is aware that the stabilization of external prices cannot be achieved by unilateral action by the Kenya Government, but it considers that the matter should be strongly and continually represented to the competent authorities in the United Kingdom. In this connexion it is relevant to note that in the United Kingdom prices for certain agricultural products have been guaranteed for varying periods.

SUMMARY OF RECOMMENDATIONS

Paragraph 39.—Endorsement in principle of recommendations contained in report of Sub-committee.

Paragraph 40.—Appointment of Native Marketing Officer recommended, but to be deferred until after proposed visit to Kenya of Commissioner for Development of Marketing in Ceylon.

Paragraph 41.—Recommends establishment of satisfactory live stock marketing system which must ensure that cattle are disposed of in numbers adequate to relieve the pressure of live stock on the land.

Paragraph 42.—The sum of £50,000 mentioned by the Sub-committee should be provided for a central abattoir.

Paragraph 43.—The Committee endorses the recommendations of the Sub-committee in regard to Veterinary Services generally. Africans should be encouraged to follow veterinary careers.

Paragraph 44.—Further examination of Contract Veterinary Services scheme should take place when qualified veterinary officers are forthcoming in larger numbers. Continuance and expansion of bursary system with a view to increasing supply of qualified veterinarians.

Paragraph 45.—Cost of providing adequate stock-dipping facilities in native areas should be borne by loan funds in the form of loans to local authorities. Cheaper methods of building dips should be evolved.

Paragraph 48.—Block allocations recommended for reconditioning of native areas and for comprehensive soil conservation scheme in both native and non-native areas.

Paragraph 49. The Government should take all necessary steps to ensure the adoption of sound agricultural practices in the native areas.

Paragraph 50.—The Government should take steps to encourage Africans to adopt the career of Agricultural Instructor.

Paragraph 52.—Block allocation proposed for Indian and Arab settlement.

Paragraph 54.—Recommendations in regard to application of Fencing Ordinance.

Paragraph 58.—Two Animal Health and Improvement Centres should be established in the settled areas on the basis of contract services. The scheme should be kept constantly under review.

Paragraph 60.—Endorsement of proposal that tsetse fly and trypanosomiasis experimental sub-stations should be established.

Paragraph 61.—Organization of veterinary research into problems common to East Africa should be on an inter-territorial basis. Local research problems should be dealt with on a Kenya basis.

Paragraph 62.—Committee supports Sub-committee's proposals for provision of local agricultural research facilities.

Paragraph 63.—Pasture Research Organization should be established on local basis if inter-territorial organization cannot be achieved.

SECTION VI—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended	Kenya Development and Reconstruction Fund	Loans for self-reimbursing expenditure	Kenya Colony Estimates		Remarks
			Estimated gross increased recurrent expenditure at end of 10 years	Estimated increased annual revenue at end of 10 years	
1	2	3	4	5	6
	£	£	£	£	
SECTION VI—AGRICULTURE AND VETERINARY SERVICES					
Soil Conservation and General Agricultural Development	1,500,000	—	—	—	Revision of C.D. & W.V. Scheme D. 299.
Reconditioning of African Areas and African Settlement	3,000,000	—	Not yet known	Not yet known	
European Settlement	1,600,000	—	—	54,000	
Indian and Arab Settlement	100,000	—	—	—	
Central Abattoir	50,000	—	—	—	
Quarantine Areas and Fenced Stock Routes	13,000	—	—	—	
Importation of Pedigree Stock	17,500	—	—	—	
Dips in Native Areas	—	200,000	—	—	
Stock Breeding Centres in Native Areas	60,000	—	15,470	—	
Animal Health and Improvement Centres, Settled Areas	10,000	—	2,900	590	
Reconditioning in European Areas (Grants for grass leys)	15,000	—	—	—	See note (a) below.
Native Marketing Officer	—	—	1,300	—	
Thomson's Falls Agricultural Station and Uaso Nyiro Irrigation Sub-station	15,699	—	—	—	Revision of C.D. & W.V. Scheme D. 271. See Head 14 Item 31, of D.A.R.A. Estimates, 1946.
Fencing of Clan Holdings in Pastoral Areas	—	—	—	—	See note (b) below.
Tsetse Fly Survey and Control	—	—	—	—	See note (c) below.
Pasteurizing Plant, Mariakani	5,671	—	—	1,800	See Head 12, item 2, of D.A.R,A. Estimates, 1946.
Coffee Research Station, Thika, Laboratories, staff quarters, etc....	See Table B.	—	—	—	See Head 14, Item 8, of D.A.R.A. Estimates, 1946.
Agricultural Research	See Table B.	—	—	—	See note (d) below.
Pasture Research	See Table B.	—	—	—	To be carried out if proposals for inter-territorial pasture research are not adopted. See note (e) below.
Tsetse and Trypanosomiasis Experimental Sub-Stations	See Table B.	—	—	—	See note (f) below.
Totals ..£	6,386,870	200,000	19,670	56,390	

SECTION VI—SUMMARY OF FINANCIAL IMPLICATIONS—Contd.

B.—KENYA SCHEMES FOR RESEARCH, THE COST OF WHICH IT IS HOPED WILL BE BORNE, WHOLLY OR IN PART, AS A CHARGE AGAINST THE COLONIAL DEVELOPMENT AND WELFARE VOTE CENTRAL ALLOCATION

Proposals Recommended	Total Capital Expenditure proposed	C.D. and W.V. Central Allocation		Kenya Colony Estimates—Estimated gross increased recurrent expenditure at end of 10 years	Remarks
		Capital	Recurrent		
	£	£	£	£	
SECTION VI—AGRICULTURE AND VETERINARY SERVICES					
Coffee Research Station, Thika, Laboratories, Staff Quarters, etc. ..	29,200	29,200	—	—	See Head 14, item 8, of D.A.R.A. Estimates, 1946.
Agricultural Research	65,000	65,000	90,000 (total for 10) years)	14,310	Colony to bear average recurrent expenditure of £3,000 per annum for first ten years. See note (d) below.
Pasture Research	27,000	27,000	75,000 (total for 10 years)	10,000	To be carried out if proposals for inter-territorial pasture research are not adopted. Colony to bear average recurrent expenditure of £3,500 per annum for first ten years. See note (e) below.
Tsetse and Trypanosomiasis Experimental Sub-Stations	13,000	13,000	22,500 (total for 10 years)	3,200	Colony to bear average recurrent expenditure of £750 per annum during first ten years. See note (f) below.
Totals .. £	134,200	134,200	187,500	27,510	

Notes

(*a*) We understand that the Government has approved a system of grants for the reconditioning of European areas by means of grass leys, involving expenditure over a three-year period of £15,000. This should be a charge on the Development and Reconstruction Fund.

(*b*) The proposed expenditure on the Fencing of Clan Holdings in pastoral areas, estimated at £32,000 (*see* paragraph 89 of the Sub-committee's report), should be borne from the block allocation of £3,000,000 for the purposes of reconditioning of African areas and African Settlement.

(*c*) Provision of £12,000 is made under Head 12, item 1 of Development and Reconstruction Authority Estimates, 1946, for Tsetse Fly Survey and Control. The Committee is informed that this expenditure will be incurred in native areas and considers, therefore, that it should be charged against the £3,000,000 block allocation referred to in paragraph 48 of its report. Similar expenditure in native areas during the remainder of the ten-year period covered by this report should also be charged against the £3,000,000.

The Committee understands that the question of the incidence of expenditure as between the Government and the occupier of land in non-native areas on tsetse fly surveys and control measures in such areas is still under examination by the Government and considers that any expenditure falling on Government funds on this account can be charged against the unallocated sum of £241,000 referred to in paragraph 231 of this Report.

(*d*) The proposals for the expansion of Agricultural Research, involving capital expenditure of approximately £65,000 and recurrent expenditure averaging approximately £12,000 per annum, during the ten-year period, should, we consider, be met as to the capital cost and three-quarters of the recurrent cost from the central research allocation of the Colonial Development and Welfare Vote and the remaining one-quarter of the recurrent cost from revenue.

(*e*) The inter-territorial proposals regarding Pasture Research, involve capital expenditure of about £27,000 and recurrent expenditure averaging £10,000 per annum. These are 1940 estimates and no doubt need revision. In our view, these should be financed in the same way as we have proposed in respect of the expansion of Agricultural Research.

(*f*) The proposed creation of Tsetse and Trypanosomiasis Experimental Sub-stations should cost some £13,000 capital with average recurrent expenditure of about £3,000 per annum. This should, in our opinion, be financed similarly to the proposals referred to under (*d*) and (*e*) above.

Section VII—Comments of the Committee on the Report of the Sub-Committee on

BUILDING MATERIALS

66. The report of the Sub-committee on Building Materials is set out in Appendix 4, Volume II. While it contains no proposals (other than that referred to in paragraph 67 below) directly involving expenditure, and while it puts forward no recommendations of a directly development nature, it nevertheless embodies in a collated form information which should be of great value to the Colony generally and also to the Development and Reconstruction Authority in carrying out the construction schemes with which it is entrusted.

67. Sub-paragraph 6 of paragraph 9 of the Sub-committee's Report contains the suggestion that, as a first step in developing brick and tile making locally an adviser with adequate practical experience in both Britain and in Kenya should be commissioned to visit places where brick-making activities at present exist, with a view to improving the quality of the product and the methods of production. The Committee understands that the Development and Reconstruction Authority has given attention to the possibility of establishing, at suitable centres in the Colony, efficient brick and tile making organizations, which may be expected to result in a substantial economy in building costs if such centres are successful. Efforts are at present being made to recruit a suitably qualified man for the purpose.

68. The cost of establishing and running such brick-making establishments, apart from the salary and other charges of the brick and tile expert, would be covered by charging the cost of bricks and tiles against the estimate for the buildings for which they are used.

FINANCIAL IMPLICATIONS OF THE PROPOSAL REFERRED TO IN PARAGRAPH 67

Paragraph 67.—*Brick and Tile Expert.*—Salary, travelling and other charges for three years: £3,000.

Section VIII—Comments of the Committee on the Report of the Sub-Committee on

COMMUNICATIONS

69. The full text of the Report of the Sub-committee on Communications is at Appendix 5, Volume II. In principle, the Development Committee endorses the Report of the Sub-committee, while emphasizing that from the development point of view, and in the light of the priorities already mentioned in paragraph 35, the duplication of adequate existing facilities falls into the lowest category.

70. As regards roads, a copy of the Report of the Sub-committee of the Central Roads and Traffic Board, to which reference is made in paragraph 3 of the Communications Sub-committee's Report, is given at the end of Appendix 5, Volume II. The total estimated cost of the proposals therein shown is in excess of £3,000,000, and we have reason to suppose that present day estimates would give a considerably higher figure, quite apart from the fact that since those proposals were submitted by the Director of Public Works numerous additional schemes have been suggested by Provincial Commissioners. Having regard to the basic principle mentioned in paragraph 9 of this Report, the priorities stated in paragraph 35, and the amount of funds available for development and reconstruction, we recommend that the following amounts be allocated for road reconstruction and improvement:—

(*a*) Main trunk and trunk roads (including the provision in Estimates, under Head 2, item 4; Head 6, item 2 (part only), item 4 (part only), and item 5; and Head 9, items 1 and 3	£850,000
(*b*) District Council Roads (the amount recommended in the District Roads Improvement Committee's Report)	£430,000
(*c*) Roads in Local Native Council areas	£75,000
Total ...	£1,355,000

71. We also recommend that the Central Roads and Traffic Board should be asked to submit detailed proposals regarding the programmes to be adopted in respect of (*a*), (*b*) and (*c*). We further recommend that the work on (*a*), (*b*) and (*c*) should be carried out within the next five years, if practicable, and that at the end of the five years' period the question of providing additional funds for the continuation of the road reconstruction programme be reviewed in the light of the financial circumstances then obtaining. Those responsible should bear in mind the desirability of timing expenditure with a view to minimising as far as possible the harmful effects of the downward swing of the trade cycle.

72. The Committee is of the opinion that where, in the case of main trunk and trunk roads, construction to a high bituminized standard is precluded on account of the heavy expenditure involved, the funds available

should normally be spent on bringing the worst stretches of such roads up to this high standard rather than on applying a low standard bitumen-treatment to all sections.

73. The Committee has learnt with grave concern that, contrary to popular belief, the cost of maintaining a bituminized road averages, in the opinion of the Director of Public Works, about £80 per mile per annum more than the cost of maintaining roads built to lower specifications. While the Committee hopes that this estimate of additional cost may prove to be unduly high, it is important that, in relation to the Colony's normal annual budget, the possibility of a heavy increase in road maintenance expenditure should be taken into consideration when new proposals for road reconstruction are being examined.

74. In preparing its proposals for the suggested expenditure over the next five years, the Central Roads and Traffic Board will no doubt appreciate the necessity, which is stressed in paragraph 3 of the Communications Sub-committee's Report, of providing suitable roads to places of interest to tourists. We regard this matter as important (*see* paragraph 35 above).

75. On the question of air transport, the Committee wishes to record that, in regard to international air transport, it is not in its view necessary for the Colony to make additional facilities available from its own resources, or from the Colony's or the East African Regional share of the Colonial Development and Welfare Vote.

In regard to local air transport, the Committee, while believing that certain facilities are necessary, would stress the point that, at the present stage of the Colony's development, austerity must be the key-word in regard to any government expenditure. A block allocation of £40,000 is recommended for capital expenditure over the next ten years on the improvement of local airfields.

76. In regard to the proposals of the Sub-committee at paragraph 6 that a co-ordinating authority for all forms of transport be set up, the Committee looks upon the matter as being one of such urgency that it has asked the Financial Secretary to bring the matter to the immediate attention of the Government.

77. In regard to tele-communications and postal facilities, the Committee agrees with the Sub-committee's view that the combined Posts and Telegraphs Department should be self-financing on an inter-territorial basis (with appropriate contributions to the revenues of the three territories) and trusts that under the new arrangements the Post Office, or whatever inter-territorial authority is set up, will have power to raise its own loans for development purposes. The limitations at present imposed by the restriction of the Colony's borrowing capacity and by the Government accounting system have militated against the expansion of this great public enterprise. It may, however, be necessary during the next few years to continue to finance postal development in Kenya by provision of the necessary capital from Government sources, i.e. from the Development and Reconstruction Fund. Accordingly, we recommend a block allocation of

£775,000 to finance various schemes of postal development, apart from the Central Engineering and Traffic School, for which funds have already been made available from the regional allocation of the Colonial Development and Welfare Vote. Although the actual expenditure of this block sum would be controlled by the Member of Executive Council concerned, in consultation with the Development and Reconstruction Authority, we suggest the following tentative programme of expenditure to indicate what we have in mind:—

	£
Reconstruction and Expansion of existing Post Offices	150,000
Construction of new smaller Post Offices in places were postal facilities do not at present exist	15,000
Purchase and rehabilitation of Military tele-communications assets	45,000
Conversion of exchanges at Nakuru, Kisumu, Eldoret and within the Nairobi 30-miles zone to automatic working	100,000
Extension of main telephone trunk net work and installation of subsidiary trunk lines	200,000
Additional provision for subscribers' telephone development (including rural telephones) over and above an annual sum of £12.500 to be included in the ordinary budget of recurrent expenditure	265,000
Total ...	£775,000

78. By the end of the ten-year period these expenditure proposals should furnish net additional annual revenue, after deducting all recurrent expenditure, of the order of £42,000.

79. It has been represented to the Committee that the rates charged for telephone services in remote rural areas are a deterrent to extension of the telephone system. Fixation of the rates is a matter of day-to-day administration and finance, and the Committee is advised that the average rentals charged compare favourably with those in operation in other territories, including the Union of South Africa. Moreover, we understand that the Posts and Telegraphs Department has a waiting list amounting to approximately 25 per cent of the total number of present subscribers. Nevertheless, the Committee considers that this matter is of sufficient importance from the point of view of the development of the country to justify a close examination by the Government and recommends accordingly.

Summary of Recommendations

Paragraph 69.—Sub-committee's report endorsed.

Paragraph 70 *and* 71.—Road programme of £1,355,000 recommended Detailed proposals to be drawn up by Central Roads and Traffic Board. Programme to be carried out in next five years, if practicable.

Paragraph 74.—Short, radial roads should be provided to places of interest to tourists.

Paragraph 75.—Provision for international air transport facilities from Colony's funds or regional resources not considered necessary. Block allocation of £40,000 recommended for capital expenditure on improvement of the local airfields.

Paragraph 76.—Urgent need for co-ordination of all forms of transport.

Paragraph 77.—Combined Posts and Telegraphs Department should eventually be self-financing on an inter-territorial basis and with power to raise its own loans for development purposes. In the meanwhile, block allocation of £775,000 from the Development and Reconstruction Fund recommended for purpose of financing development in Kenya.

Paragraph 75.—Rates charged for telephone services in rural areas should be closely examined by the Government.

SECTION VIII—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended 1	Kenya Development and Reconstruction Fund 2	Loans for self-reimbursing expenditure 3	Kenya Colony Estimates		Remarks 6
			Estimated gross increased recurrent expenditure at end of 10 years 4	Estimated increased annual revenue at end of 10 years 5	
SECTION VIII—COMMUNICATIONS	£	£	£	£	
Main Trunk and Trunk Roads (including provision made in 1946 D.A.R.A. Estimates under Head 2, item 4; Head 6, item 2 (part only), item 4 (part only), and item 5; and Head 9, items 1 and 3) . .	850,000	—	25,000	—	Gross increased recurrent expenditure of £25,000 at end of ten years is estimated to cover increased cost of maintenance of bituminized roads. As regards Head 2, item 4, of D.A.R.A. Estimates, 1946, expenditure for Roads Branch will continue for duration of Road Reconstruction Programme, and should be charged against allocation of £850,000.
District Council Roads . .	430,000	—	—	—	
Local Native Council Roads . .	75,000	—	—	—	
	1,355,000	—	25,000	—	
Local Air Transport : Block allocation for capital expenditure on airfields improvements over next ten years . .	40,000	—	—	—	
Posts and Telegraphs . .	775,000	—	27,000	69,000	
Posts and Telegraphs Planning Staff (1946, £ nil; 1947, £9,780; 1948, £6,521) say . .	16,300	—	—	—	See D.A.R.A. Estimates, 1946, Head 8. Provision is made for Kenya share of estimated expenditure in 1946, 1947 and 1948 which cannot be charged to works. After 1948 cost of staff will be borne fully against works.
Totals . . £	2,186,300	—	52,000	69,000	

Section IX—Comments of the Committee on the Report of the Sub-committee on

EDUCATION

80. The Committee attaches great importance to the provision of adequate educational facilities for the child population of both sexes and of all races in Kenya. In paragraph 23 the Committee has expressed the view that the proper utilization of the manpower of the country is just as important as the proper utilization of the soils, minerals, water and forests. The two are, in fact, inter-dependent. The proper utilization of manpower implies the development of adequate, but not luxurious, educational services —in particular, the education of African children and, as far as possible, the mass education of African adults, not only for the purpose of enabling the African to understand the nature of, and the reasons for, the Government's agricultural and development policy, but also more generally to further the economic prosperity of the country at its present stage of development.

81. The problem of adult African education is discussed in the section dealing with Social Welfare, and in this section the Committee confines itself to an examination of policy for the education of children of all races. The Committee found this problem one of the most difficult with which it has had to deal. We are aware of the insistent demand in this country and outside for the speeding up of the education of all races, but particularly of Africans. We realize and appreciate all the moral and philosophical arguments in favour of such a course; we also appreciate that no lasting progress can be made in the advancement of a nation until the people are able to understand the issues involved. We were, however, appointed as a Development Committee and we had to review this question in the light of the criteria referred to in paragraph 9 with due regard to the funds available and the ability of the Colony to meet the annual costs. As is evident from Section IV dealing with finance, the amount available is limited and we had to consider the degree of education which could be afforded to make the maximum contribution to the raising of the National Income in the shortest space of time. It became evident that it was little use spending large sums on African education if by so doing it meant that money would not be available for the development of the natural resources of the Colony on which the people depend for their very existence. As will be seen from the following paragraphs, the Committee in its wish to meet this understandable desire for rapid progress in education examined no less than three plans, and it was with the greatest reluctance that it reached the conclusion that the only plan which could be adopted within the finance available was the third and least expensive plan, which, although comprehensive, falls far short of the ideal of education towards a fuller and better life for the African peoples. Such a standard of education could be reached only if the national income were to increase at a rate greater than we can at present foresee, or if additional sums of money were to become available from sources not at present in sight. The plan we have recommended is the bare minimum which we consider will enable the people to understand at least in part the important issues involved in a development plan; it will provide no more

than that. Moreover, even this standard of literacy will be lost if schooling is not followed by the provision of reading material on a large scale at reasonable prices. This matter is dealt with in paragraph 183 of this report.

82. It seems to the Committee that the proposals in regard to African education set out in the Sub-committee's report (Appendix 6, Volume II) suffer from two main defects. They involve extremely heavy expenditure, both capital and recurrent, and they do not purport to do more than provide educational facilities for more than half the African population. The financial proposals are based on expenditure over a five-year period, but even if spread over a ten-year period they represent more than the Colony is likely to be able to afford, even on the most optimistic view of its taxable capacity. Moreover, the Sub-committee aimed ultimately at providing a six-year course for all children. In the view of the Committee that represents something approaching a counsel of perfection. The object should, in the Committee's view, be to provide a modest standard of literacy for the whole African child population as soon as practicable, with facilities for the further education of those who have shown genuine aptitude at this level.

83. This objective postulates a marked expansion of facilities for the education of women and girls, because until now facilities have been largely, though not wholly, confined to boys. The Committee regards this trend as highly desirable, because economic and social progress in any community depend to a great extent on the standards of culture of the women.

84. The present Deputy Director of Education, who, as Acting Director, was consulted about the Committee's proposals, expressed full agreement with the policy proposed and, at the request of the Committee, prepared a plan embodying the necessary details as regards buildings, staff, rate of development, etc., and also estimates of probable expenditure, both capital and recurrent. After full consideration of the plan and of the financial implications the Committee most reluctantly came to the conclusion that the funds likely to be available were inadequate to meet the estimated expenditure. The Committee therefore considered the possibility of spreading the programme, which aimed at providing a four-years course for the whole African child population at the end of twenty years, over thirty years instead of twenty years, but on the urgent representations of the Director and Deputy Director of Education against the adoption of such an arrangement, examined instead the saving that would be effected by the adoption of double sessions for all the standards in the four year course, instead of for the first two standards only, as had been contemplated in the Deputy Director's original plan. The saving was estimated to be some £74,000* capital expenditure during the first ten years and approximately £75,000† a year recurrent expenditure in the tenth year. Although even with this saving the estimated expenditure on African education rises to a very high figure, the Committee feels justified in recommending the adoption of the Deputy Director's plan (which the new Director supports), with the modifications necessitated by the adoption of double sessions in all the four years of the primary course. This modified plan is given at the end of this section. The Committee would observe that the plan in its original form was prepared at short notice and that the Acting

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* This would reduce estimated capital expenditure to £806,000.

† This would reduce estimated gross recurrent expenditure to £630,000.

Director did not have an opportunity of securing the views of the Advisory Council on African Education. The Director will, no doubt, seek the views of the Council on the plan.

85. The Committee wishes to draw attention to the importance of securing the utmost economy in expenditure on buildings. The object of the plan is to make the youth of the country literate and not to produce a series of grandiose buildings scattered throughout the native areas of the Colony. The Committee regards the estimated building costs appearing in the plan as maxima and recommends that the problem of buildings should be approached from the standpoint of securing the best buildings that it is possible to construct within the limits of the funds available.

86. In regard to primary education for Africans, this must involve a large measure of local self-help. By primary education the Committee means the six-year course referred to in paragraph 1 of Appendix A at the end of this section; at present the first five years of this course are called the elementary course, but in future the six-year course will be called the primary course. It will be seen from the Acting Director's plan that the amount to be made available for each primary school, including teachers' quarters, is no more than £100. The Committee envisages that this will, for the most part, be disbursed on the purchase of furniture and equipment, and that in the native areas school buildings will be constructed largely with local materials, using free labour provided by the community which each school will serve. The Committee does not recommend that Local Native Councils should normally make any capital grants, as the necessity of meeting recurrent charges will strain their finances unless such charges are covered by school fees.

87. As regards the settled areas, the Committee envisages similar grants being made to individual farmers who are prepared to erect schools on their farms—many have already done so—and in appropriate cases to District Councils, where schools can be constructed serving children on small groups of farms. Here, again, the Committee is of opinion that schools should be constructed largely in local materials without any appreciable charge for either materials or labour falling upon public funds.

88. The incidence of expenditure on African education requires careful consideration. The Committee sees every reason why the burden of developing African education should, in the initial stages at any rate—and it will remain in the initial stages for many years—be shared between the parent and the general taxpayer. On the basis of 500,000 children attending school, a modest fee of Sh. 15 per annum would produce revenue amounting to £375,000. The Committee is aware that a committee is shortly to be appointed to consider methods of financing a programme of education development and commends the following suggestions to that committee's consideration—

(*a*) that responsibility for the primary course (*see* paragraph 1 of Appendix A) should be vested in local authorities with a reimbursement from the central Government of one-half the net recurrent expenditure after deducting revenue from fees, the capital expenditure, estimated at £250,000, being met by free grant under the Colonial Development and Welfare Act;

(*b*) that a suitable minimum fee of between Sh. 10 and Sh. 20 per annum per child should be prescribed by the central Government.

(*c*) that the local authority should have the option to impose any fee which it may think fit in excess of that minimum;

(*e*) that the fee should cover tuition and the provision of textbooks, but not the provision of exercise books, pens, pencils, etc., which should be purchased by each individual child;

(*e*) that in respect of education after the primary course suitable fees should continue to be charged, except, perhaps, in cases of specialized vocational courses, e.g. teacher-training; in particular where boarding facilities are provided sufficient boarding fees should be charged to enable the cost of boarding in each school to be fully met from revenue;

(*f*) that as a corollary no child should be accepted into a school unless the appropriate instalment of the fee has been paid in advance or financial responsibility for the payment of the fee has been accepted by the local authority or the managing body of the school.

89. As regards (*b*), it is only by the imposition of fees that the Committee can see any prospect of active educational development in the near future, in view of the limits of taxable and rateable capacity, and in any event Kenya will not be in a position to provide Colony-wide educational facilities for Africans for many years to come.

90. The plan in Appendix A at the end of this section involves, in respect of both primary and post-primary education, annually recurrent expenditure of £630,000 at the end of ten years, and £833,000 at the end of 20 years. The whole of this expenditure would not be additional to that at present incurred by the central Government and by local authorities on African education, but would include it. Taking the total of such expenditure at approximately £225,000 per annum, the plan involves additional recurrent expenditure of approximately £405,000 per annum at the end of ten years, which could, and, in the Committee's opinion, should be partly offset by revenue.

91. On the basis that a fee of Sh. 15 per pupil per annum is charged, revenue in respect of the primary course would amount to approximately £300,000 per annum. The net expenditure, after deducting this revenue of £300,000 from the estimated gross annually recurrent expenditure of £425,000 on the primary course, would consequently become about £125,000 per annum, of which, on the basis suggested above, £62,500 would be borne by local authorities and £62,500 by the central Government.

92. At present the whole cost, namely about £75,000, is borne by local authorities without any appreciable reimbursement from fees.

93. In addition, total recurrent expenditure on post-primary education should, in the Committee's opinion, become a Government responsibility involving recurrent expenditure of £205,000 per annum, of which about £75,000 might be offset by revenue from fees, leaving net expenditure of approximately £130,000 per annum

94. On this basis the total net expenditure of Government and local authorities combined would be approximately £255,000, of which £192,500 would be met by the Government and £62,500 by local authorities. This involves decreased expenditure by local authorities of the order of £12,500 per annum below present-day figures and, in the case of the Government, increased expenditure of approximately £42,500. The Committee would point out that these calculations are based on a fee of Sh. 15 per annum and that if any departure from this fee is decided upon the net cost to the taxpayer or ratepayer, as the case may be, would be sharply increased or materially reduced.

95. The Committee wishes to draw attention to the fact that this programme involves the provision of primary education courses for all children only at the end of 20 years. Not only is this period long, but the course is short and much of the work which should be carried out by lower primary teachers will be carried out by elementary teachers. Further, the adoption of the dual session system for the first four years is, from a strictly educational point of view, undesirable. With the limited funds available, however, it is not possible to recommend any more extensive or intensive development. Indeed, it appears to the Committee to be highly probable that lack of money to meet recurrent expenditure may later entail delays when progress may have to be arrested for no other reason than the shortage of finance.

96. The Committee wishes to draw attention to the importance of the provision of adequate instruction in elementary agriculture and endorses the view expressed in paragraph 23 of the Sub-committee's report.

The Committee is not satisfied that in the past the educated or semi-educated African has emerged from his studies with any wide appreciation of the fundamental importance of agriculture and care of the land. In fact, too often his ambitions have been diverted to clerical work and he has been left with the impression that work on and care of the land are of minor importance and beneath the dignity of the literate. The Committee does not feel competent to give advice as to how this outlook should be remedied. It understands, however, that it has been overcome to a great extent in some African territories, more particularly the Belgian Congo. It therefore recommends that Government should appoint a committee of two, namely an educationist and an agriculturist, to study this vital question in other African territories and to report as soon as possible.

97. As regards the place of the Missions in education, the Committee desires to pay sincere tribute to the valuable and constructive work carried out for many years in the field of education. It is the Committee's hope that the work of the Missions may continue in the future and that they will play a full part in the carrying out of the far-reaching plan which the Committee advocates.

98. As regards the development of advanced education at Makerere, the Committee understands that proposals for expansion are being considered on an inter-territorial basis. The Committee is informed that no capital

expenditure will fall upon the Development and Reconstruction Fund, but that recurrent expenditure of £12,000 per annum will require to be met from the Colony's estimates.

99. The Committee appreciates that financial provision has already been made under the Colonial Development and Welfare Act for a scheme for making a beginning with the education of women and girls, and that this scheme, as approved, provides for the recurrent cost being met by a free grant under the Colonial Development and Welfare Vote. In view of the limited amount available to Kenya under the Act, the Committee considers that it should be utilized to meet capital expenditure or recurrent expenditure of limited duration, and should not be used to finance recurrent expenditure of an indisputably permanent character. The Committee therefore recommends that as from the 1st of January, 1947, this assistance in respect of recurrent expenditure should be relinquished and the amount so freed utilized for capital purposes on other projects.

100. As regards non-native education, the Committee agrees generally with the Sub-committee's proposals, and, on the question of finance, considers that the following principles should be adopted—

(*a*) that each community, or at least the European and Indian communities, should bear the cost of its own education;

(*b*) that fees, both for tuition and boarding, should be very closely related to the actual costs of those services;

(*c*) that, subject to (*d*) below, only remissions on the ground of hardship should fall upon the general taxpayer.

(*d*) that the fees should include an element towards the cost of interest and sinking fund charges on the capital expenditure;

(*e*) that the capital required for the expansion of non-native education facilities should be obtained through the medium of local loans at current interest rates;

(*f*) that increased allowances for educational expenditure should be granted under Income Tax legislation.

Mr. Amin does not subscribe to the above principles and in particular (*a*), which suggests that each community, or at least the European and Indian communities, should bear the cost of its own education.

101. The Committee recommends that these suggestions should be referred for consideration to the *ad hoc* committee which is to be appointed in accordance with paragraph 100 of the Report of the Standing Finance Committee on the 1946 Draft Estimates.

102. The Committee considers that if additional funds are not forthcoming from the European and Indian communities to meet capital expenditure on the education of their children, then it must be made clear to them that compulsory education in its present form may have to be reviewed. The Committee would, however, suggest that satisfactory results might be achieved by floating a series of small loans, for particular community requirements, rather than by floating a single loan for educational purposes generally.

103. The Committee desires to point out that the programme for the extension of European and Indian education cannot be regarded as fixed or final. Actual requirements will vary in accordance with the measure of increased settlement, whether agricultural or residential, in accordance with the extent of the Military garrison, and in accordance with the extent to which parents send their children overseas for educational purposes.

104. The Committee wishes to express the view that the policy of the Education Department to encourage the substitution of English for Swahili as a second language of the African should be encouraged by every practicable means. The Committee is well aware that the bottle-neck is the shortage of African teachers who are able to teach English as a subject, and fully appreciates the gulf between using English as a medium of instruction in other subjects and teaching English to non-English-speaking people. It understands that the new syllabus at present in course of preparation for primary schools makes provision for starting English in the fifth educational year, and would urge that as soon as practicable English should be taught at an earlier stage.

The Committee, in expressing this view, wishes to emphasize that all over the world English is becoming the international language of commerce and business and that if the African is to compete with the traders of other races who control the major proportion of the Colony's business, he must learn English. If the African is ever to become an importer or exporter on his own account or even to take part in such activities in a subordinate capacity he must learn English.

The Committee takes the view that it is self-evident that if East Africa, and Kenya in particular, is to compete with the rest of the world in an economic sense it cannot afford to isolate itself from the main stream of business and commercial life.

105. There are certain other points in the Sub-committee's report which require comment:—

Paragraph 4.—As a preliminary to the work of the *ad hoc* committee on the financing of education a statistical inquiry is, the Committee understands, at present being carried out.

Paragraph 9.—As regards school buildings for the children of all races in Kenya, the Committee attaches the utmost importance to the point made in paragraph 9 of the Sub-committee's report regarding building standards. The Colony is in no position to afford anything other than an austere standard of buildings to meet the educational requirements of all races, and it is out of the question at present to contemplate such luxuries as swimming baths, separate school hall and gymnasium accommodation, spacious quarters for teaching staff, or any of the other desirable amenities to be found in well-endowed schools in more advanced countries.

Paragraph 11.—The list of schools proposed omits provision, estimated at £55,700, for two additional boarding blocks, dining hall and kitchen staff quarters, four classrooms, workshops, sanatorium, etc., at the European School, Nakuru.

Paragraph 13.—The figures in this paragraph may require revision.

Paragraph 14.—Item (*b*) should, in the Committee's view, be simplified to the extent that the consolidated fee should be based on the *full* cost of boarding and tuition, including interest and amortization of loan charges. Alternatively, a proportion of the capital cost might well be met as a charge against *other territories*, perhaps from their allocations under the Colonial Development and Welfare Vote and fees adjusted suitably.

Paragraph 15.—The Committee's remarks in respect of the Industrial Sub-committee's report contain references to the question of technical training.

Paragraph 16.—It should be made clear that the figure of £40,000 quoted is a *net* figure, because increased revenue has been taken into account in computing it.

Paragraph 22.—The Committee is informed that the level of education to which this paragraph refers is post-primary schooling, i.e. the modern school parallel of secondary education.

Paragraph 24.—The Committee considers that, in principle, fees at Makerere College should be recovered in whole or in part from pupils' parents wherever possible, but that this principle should not be allowed to influence the selection of pupils for Makerere or to prevent suitable individuals whose parents are poor from receiving an education at Makerere.

Paragraphs 28 *to* 30.—The Committee recommends that Arab teachers, other than teachers in elementary schools, should continue to be trained in Zanzibar. Not only is Zanzibar the main centre of Arab culture in East Africa, but it should prove more economical and more conducive to efficiency for Arab teachers to be trained there where the facilities are greater and more specialized than would be warranted in a purely Kenya institution.

Paragraph 32.—While realizing that the system of double sessions in Indian and other schools is open to objection, the Committee appreciates that it achieves substantial economy in classroom accommodation and teaching staff.

Paragraph 33.—The Committee understands that many of the estimates given in this paragraph are too low to meet the requirements of the Education Department at present-day prices and may require revision.

Paragraphs 36 *and* 37.—The Committee, by a majority, endorses the views expressed by the Sub-committee in these paragraphs. Mr. Amin dissents and is strongly of the opinion that the principle of compulsory education should be applied to Indian pupils throughout the Colony within the ten-year period under review on the same basis as it is being applied to European pupils of comparable age. As regards hostels for Indian pupils, Mr. Amin considers that the Government should make a start as soon as practicable with the construction of the hostels recommended in paragraph 37 of the Sub-committee's report, and that the programme should be completed within the next ten years.

Paragraph 38.—The Committee recognizes that it is desirable that certain of these aided schools should be taken over by the Government when financial circumstances permit. This may prove possible if the principles set out in paragraph 100 are adopted, under which the European and Indian communities would bear the major part of the cost of the education of their children.

Summary of Recommendations

Paragraph 84.—The plan (Appendix A) prepared by the Deputy Director of Education for the development of African education should be adopted.

Paragraph 85.—Problem of African educational buildings should be approached from standpoint of securing the best buildings that it is possible to construct *within the limits of the funds available.*

Paragraph 86.—Local Native Councils should not normally make grants for capital expenditure on schools in native areas.

Paragraph 88.—Fees should be charged in African education. Committee's suggestions in regard to fees commended to committee to be appointed to consider methods of financing a programme of education development.

Paragraph 90.—Additional recurrent expenditure under plan should be partly offset by revenue.

Paragraph 93.—Total recurrent expenditure on post-primary education should become a Government responsibility.

Paragraph 99.—As from the 1st of January, 1947, the free grant from the Colonial Development and Welfare Vote in respect of recurrent expenditure under the scheme for the education of women and girls should be relinquished and the amount so freed utilized for capital purposes.

Paragraph 100.—Sub-committee's proposals in regard to non-native education generally endorsed.

Paragraph 101.—Suggestions made by the Committee in paragraph 100 for the financing of non-native education should be referred for consideration to the *ad hoc* committee on the methods of financing education.

Paragraph 105.—Arab teachers, other than teachers in elementary education, should continue to be trained in Zanzibar (paragraphs 28–30 of Sub-committee's report).

SECTION IX—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND OR BY LOANS FOR SELF-REIMBURSING

Proposals Recommended	Kenya Development and Reconstruction Fund	Loans for self-reimbursing expenditure	Kenya Colony Estimates		Remarks
			Estimated gross increased recurrent expenditure at end of 10 years	Estimated increased annual revenue at end of 10 years	
1	2	3	4	5	6
	£		£	£	
SECTION IX—EDUCATION					
African Education	806,000	—	112,500	75,000	See Note (1) below.
European Education	670,700	—	76,000	36,000	For details of computation see note (2) below.
Arab Education	85,000	—	22,350	5,000	For details of capital expenditure see Appendix to Sub-committee's Report.
Indian Education	636,500	—	40,000	15,000	For details of capital expenditure see note (3) below.
Goan Education..	—	—	2,000	—	See Appendix to Sub-committee's Report.
Colonial Development and Welfare Vote Schemes:					
(a) Education of Women and Girls (D. 355) (all races) ..	113,742	—	20,929	5,490	For details see Note (4) below.
(b) Training School for Indian Teachers (D. 535)	22,000	—	7,907	1,440	For details see Note (4) below.
(c) African Agricultural Schools and Teacher Training Centres, Maseno and Embu (D. 292)	88,505	—	13,640	—	For details see Note (4) below.
Grants-in-Aid to African Schools (Buildings)..	12,500	—	—	—	See DARA Estimates, 1946, Head 14, Item 16.
Totals .. £	2,434,947	—	295,326	137,930	

Note (1)

African Education.—The following tables set out the incidence of the recurrent costs of the proposed expansion of African Education as they affect both the Government and Local Authorities:—

		£
(*a*) Gross increased Government annually recurrent expenditure at end of ten years:—		
Primary	£62,500	
Post-Primary	£55,000	117,500
Increased annual revenue on the assumption that a fee of Sh. 15 per pupil per annum would be charged:—		
*Fees, primary course	Nil	
Fees, post-primary	£75,000	75,000
Net increased Government annually recurrent expenditure at end of ten years		£42,500
(*b*) Gross total annually recurrent expenditure by Local Authorities at end of ten years		425,000
Estimated increased annual revenue accruing to Local Authorities from fees in respect of the primary course at end of ten years	£300,000	
Reimbursement from the Government of half the net annual expenditure	£62,500	
Present expenditure by Local Authorities	£75,000	437,500
Net decreased annual expenditure by Local Authorities at end of ten years		£12,500
(*c*) Estimated gross total annual recurrent expenditure† at end of ten years (i.e. present expenditure plus estimated increased expenditure):—		
Government	£267,500	
Local Authorities	£362,500	630,000
Present expenditure:—		
Government	£150,000	
Local Authorities	£75,000	225,000
Estimated increased gross expenditure:—		
Government	£117,500	
Local Authorities	£287,500	£405,000

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* Such fees are payable to the Local Authorities.

† Allowing for the reimbursement by the Government of half the net expenditure incurred by local authorities on the assumption that an average fee of Sh. 15 per annum is payable.

Note (2)

European Education.—

	£
(*a*) Capital expenditure as set out in Sub-committee's Report ...	665,000
Add European School, Nakuru—extensions (not included in Sub-committee's Report)	55,700
	720,700
Deduct Female Teacher Training College and Hostel (approved grant from Colonial Development and Welfare Vote, including additional cost on revised estimates). For the sake of clarity all Colonial Development and Welfare Vote schemes are grouped together at end of summary of Financial Implications—*see* Note (4) below	50,000
Net capital expenditure	£670,700
(*b*) Recurrent expenditure:—	
Estimated gross increased annual recurrent expenditure at end of ten years	76,000
Estimated increased annual revenue (on basis of present fees) at end of ten years	36,000
Estimated net increased annual recurrent expenditure at end of ten years	£40,000

Note (3)

Indian Education.—

(*a*) Capital expenditure as set out in Sub-committee's Report		612,500
Less items covered by Colonial Development and Welfare Vote grants (which, for the sake of clarity, are grouped together at the end of summary—*see* note (4) below):—		
Teacher Training College, Nairobi, Tuition block for 30 women students	£9,000	
Ditto—Hostel	£20,000	
Training College, Nairobi (Male teacher training institution)	£22,000	
		51,00
Add grants to aided schools for capital expenditure (not included in Sub-committee's Report) ...		75,00
Total ...		£636,50

(*b*) Recurrent expenditure:—

Gross increased annually recurrent expenditure at end of tenth year	40,000
Estimated increased revenue from fees at end of tenth year	15,000
Net increased annually recurrent expenditure at end of tenth year	£25,000

Note (4)

Colonial Development and Welfare Vote Schemes.

(*a*) *Education of Women and Girls* (D.355).—Free grant approved was £91,000 for capital and £89,000 for recurrent expenditure. The revised estimate for capital expenditure is £115,000, and of this £1,258 has been spent up to the 31st of December, 1945, leaving a net amount of £113,742 to be included against the Development and Reconstruction Fund. As recurrent expenditure is now to be borne against the Colony's Estimates if the Committee's proposals are accepted, the free grant of £89,000 (less any expenditure included in the figure of £1,258 mentioned above for expenditure up to the 31st December, 1945) will be abandoned and applied to capital expenditure under other schemes to be charged against the Colony's block allocation of £3,500,000. The amount of £113,742 shown in the summary of financial implications includes the amounts of £50,000 and £29,000 shown in notes (2) and (3) above respectively.

(*b*) *Training School for Indian Teachers* (D.535).—Free grant approved was £22,000 for capital and £25,520 for recurrent expenditure. For the reasons stated above the grant for recurrent expenditure will be abandoned. No expenditure under any part of the scheme has been incurred up to the 31st December, 1945. (*See* also (*a*) of Note (3) above.)

(*c*) *Agricultural Schools and Teacher Training Centres at Maseno and Embu* (D.292).—A free grant of £54,300 for capital expenditure was approved. The revised estimate is £90,000. Up to the 31st of December, 1945, £1,495 had been spent. The net amount chargeable against the Development and Reconstruction Fund is therefore £88,505.

APPENDIX A

AFRICAN EDUCATION DEVELOPMENT PLAN

Prepared by the Acting Director of Education for the consideration of the Development Committee

I—PRIMARY EDUCATION

Objective

1. The objective here is to provide over a twenty-years period a universal four-year course for all African boys and girls, with provision for a further two-year course for 20 per cent of those children to allow them to complete the full Primary School Course from Standard I to Standard VI.

2. From figures now available it appears that there are some 100,000 children in each yearly age-group. Some authorities state that the yearly population increase can be taken as two per cent, but figures obtainable from some districts suggest that this is too low for the African population of Kenya. For the purpose of this plan it has therefore been assumed to be 2½ per cent, which gives the children's yearly age-group population as approximately 160,000 in twenty years.

3. On the assumption that the average class during the Primary School stage will contain 40 pupils, there will be needed 4,000 schools in 20 years time, 800 of which will have to provide a full course up to Standard VI. There are at present about 2,000 Elementary Schools in the Reserves, and therefore 2,000 more schools will have to be provided in the period under review, and the 2,000 already in existence will have to be reorganized and developed in order to provide the necessary courses.

Staffing

4. To give the best educational results, these schools would have to be staffed with Elementary Teachers for the first three, and with Lower Primary Teachers for the last three standards. At a rough estimate such a scale of staffing would entail a recurrent cost of £600,000 in salaries alone in the tenth year, and £750,000 in the twentieth year.

5. This is expenditure on a scale that cannot be considered for the purposes of this plan, therefore the following economies have been suggested:—

(*a*) Dual sessions in Standards I to IV, each class attending for half a day only, thus enabling these four classes to be taken by two teachers.

(*b*) The dilution of the teaching staff for Standards I to IV, taking the schools as a whole, in the ratio of one Lower Primary Teacher to three Elementary Teachers.

6. In order to estimate the recurrent cost of staffing the schools and the capital expenditure required for the establishment of teacher training centres, the incidence of development will have to be examined.

Incidence of Development

7. (*a*) *New Schools.*—No new schools will be opened in the first year in order to allow the teacher training centres to provide their first yearly output. To allow the full primary school courses to be in operation by the end of the twenty-year period these schools will have to be established between the second and fifteenth year of the plan, at an average rate of 150 annually.

8. This gives the following development of classes:—

TABLE A

Year	I	II	III	IV	V	VI
1	—	—	—	—	—	—
2	150	—	—	—	—	—
3	300	150	—	—	—	—
4	450	300	150	—	—	—
5	600	450	300	150	—	—
6	750	600	450	300	30	—
7	900	750	600	450	60	30
8	1,050	900	750	600	90	60
9	1,200	1,050	900	750	120	90
10	1,350	1,200	1,050	900	150	120
11	1,500	1,350	1,200	1,050	180	150
12	1,650	1,500	1,350	1,200	210	180
13	1,800	1,650	1,500	1,350	240	210
14	1,950	1,800	1,650	1,500	270	240
15	2,000	1,950	1,800	1,650	300	270
16	2,000	2,000	1,950	1,800	330	300
17	2,000	2,000	2,000	1,950	360	330
18	2,000	2,000	2,000	2,000	390	360
19	2,000	2,000	2,000	2,000	400	390
20	2,000	2,000	2,000	2,000	400	400

9. On the basis of staffing as given in paragraph 5 above, the new school will need teachers as follows:—

TABLE B

Year	Elementary Teachers			Lower Primary Teachers			
	I–II	III–IV	Total	III–IV	V	VI	Total
1 ..	—	—	—	—	—	—	—
2 ..	150	—	150	—	—	—	—
3 ..	300	—	300	—	—	—	—
4 ..	450	75	525	75	—	—	75
5 ..	600	150	750	150	—	—	150
6 ..	750	225	975	225	30	—	225
7 ..	900	300	1,200	300	60	30	390
8 ..	1,050	375	1,425	375	90	60	525
9 ..	1,200	450	1,650	450	120	90	660
10 ..	1,350	525	1,875	525	150	120	795
11 ..	1,500	600	2,100	600	180	150	930
12 ..	1,650	675	2,325	675	210	180	1,065
13 ..	1,800	750	2,550	750	240	210	1,200
14 ..	1,950	825	2,775	825	270	240	1,335
15 ..	2,000	900	2,900	900	300	270	1,470
16 ..	2,000	975	2,975	975	330	300	1,605
17 ..	2,000	1,000	3,000	1,000	360	330	1,690
18 ..	2,000	1,000	3,000	1,000	390	360	1,750
19 ..	2,000	1,000	3,000	1,000	400	390	1,790
20 ..	2,000	1,000	3,000	1,000	400	400	1,800
21 ..	2,000	1,000	3,000	1,000	400	400	1,800

10. The schools already existing—2,000—will also have to be staffed on a similar scale with 3,000 elementary teachers, and 1,800 lower primary teachers. In these schools there are already 4,000 untrained and elementary teachers; for the purpose of this plan we can assume that the 3,000 elementary teachers required for the final establishment of these schools are already in employment, since over the period concerned all of them will be replaced by newly trained teachers through the making good of normal wastage, the rate of which can be taken to be ten per cent annually.

11. As far as Lower Primary Teachers are concerned, the position is different. There are, perhaps, no more than 600 of such teachers in existing schools, while 1,800 will be needed. For these schools then, 1,200 new Lower Primary Teachers will have to be trained, and assuming that the reorganization of the present schools will take place over the first ten-year period of the development, they will have to be trained at a rate of 150 a year. As it takes two years to train a Lower Primary Teacher, the first output will be available in the third year of the plan, and the staff can then be brought up to the requisite establishment at the end of ten years.

12. *Estimates.*—*(a) Recurrent*: The estimated cost of the salaries of these teachers will be:—

	£	£
TENTH YEAR—		
(i) *New Schools:*		
1,875 Elementary Teachers at £40	75,000	
795 Lower Primary Teachers at £50	39,750	114,750
(ii) *Existing Schools:*		
3,000 Elementary Teachers at £40	120,000	
1,800 Lower Primary Teachers at £50	90,000	210,000
		£ 324,750
TWENTIETH YEAR—		
6,000 Elementary Teachers at £40	240,000	
3,600 Lower Primary Teachers at £50	180,000	£420,000

If allowance is made for the cost of equipment and for maintenance, which in mission schools is now offset by fees, and also for supervision, the total recurrent cost of these schools will be:—

10th year	£425,000
20th year	£550,000

(b) Capital Expenditure.—We shall also have to consider the capital expenditure involved in this expansion. It is clear that buildings must be of a modest type, largely of local materials, for the most part put up by the communities which it is the intention the school shall serve. However, we must take into account the possibility of meeting part of the cost through

grants-in-aid. If we take £100 as the average amount likely to be granted towards the capital cost of erecting a school providing a four-year course and £200 for a school providing a six-year course, with an average grant of £50 to each of the existing schools for reorganization and development, the total capital expenditure will be:—

	£	£
YEARS 1–10—		
(i) *New Schools:*		
1,200 Four-year Schools at £100	120,000	
150 Six-year Schools at £200	30,000	
		150,000
(ii) *Existing Schools:*		
2,000 Renovations at £50	100,000	
		100,000
		250,000
YEARS 11–20—		
New Schools:		
400 Four-year Schools at £100	40,000	
250 Six-year Schools at £200	50,000	
		90,000
		£ 340,000

II—POST-PRIMARY EDUCATION

Objective

13. Post-primary education is to be organized in a series of two-year courses, the first ending at the equivalent of the present Primary School Examination, the second at the Junior Secondary and the third at the School Certificate Examination. The final extension will, of course, be to the Higher School Certificate Examination, but as this will depend upon the future development of Makerere into a University College, this has not been taken into account in the formulation of this plan.

14. On the assumption that 20 per cent of the pupils completing one course will be competent to proceed to the next, provision will have to be made for the following numbers of children:—

	Standard VI	Forms 1–2	Forms 3–4	Forms 5–6
Tenth year	20,800	4,160	832	166
Twentieth year..	32,000	6,400	1,280	256

15. The numbers in Primary School classes have been estimated at an average of 40 pupils; these will have to be reduced to 30 for Post-primary classes, the number of which will therefore be approximately as follows:—

	Forms 1–2	Forms 3–4	Forms 5–6
Tenth year	125	25	5
Twentieth year	200	40	8

16. Schools will not, however, offer single courses; some will offer a two-year course, some a four-year and some a six-year course, with provision for a possible interchange or intake of new pupils at the beginning of each two-year course. The curriculum of the first two years will be the same in all institutions, but the subsequent courses will vary. The schools providing the full six-year course will be largely academic, excepting the possible provision of a technical college of a high grade, while those providing the four-year courses will have a technical or agricultural bias varying according to local needs and the probable absorption of their pupils into employment. The following schools will be needed:—

	Two-year	Four-year	Six-year	Total
Tenth year	100	20	5	125
Twentieth year..	160	32	8	200

Incidence of Development

17. There are at present some 60 schools capable of offering the two-year course, five the four-year, and two the six-year course, although on these some capital expenditure may be necessary to bring them up to an adequate standard of accommodation. The following additional schools will be needed:—

	Two-year	Four-year	Six-year
Tenth year	40	15	3
Twentieth year	60	12	3

18. It is not considered advisable to give a more detailed estimate of incidence, as this will depend on the local rates of Primary School Development and the output of pupils suitable for further education and also on the supply of teachers from Makerere, Embu and Maseno. It is recommended, however, that the establishment of the schools should take place at the beginning of each period to allow the increasing number of suitable pupils to be provided for by bringing the classes up to the maximum number.

Estimates

(*a*) *Recurrent*—

19. It is clear that economic considerations will not allow a wide expansion of boarding facilities, even if that were desirable in itself, and it is therefore recommended that the schools providing the two-year course should be day schools under African headmasters, either Makerere or Primary Teachers, on the lines of the present Day Primary Schools. In areas where it is not possible to establish such schools within reach of the pupils' homes it will be necessary to provide a system of self-supporting hostels or provision for the acceptance of some of those pupils at the schools providing the four-year and six-year courses, which will offer the same initial two-year course and where there will normally be boarding accommodation. In many cases the schools offering the two-year course only will be attached to Primary Schools going up to Standard VI.

20. The estimates for recurrent expenditure at each type of school may be arrived at as follows:—

		£
(a) TWO-YEAR:	One Makerere-Primary Teacher	100
	One Primary Teacher	60
	One Instructor	60
	Other Charges—(a) Tuition	80
		£ 300
(b) FOUR-YEAR:	One European Principal	600
	Three Makerere-Primary Teachers	300
	Two Instructors	120
	Other Charges—(a) Tuition	280
	(b) Boarding	1,200
		£ 2,500
(c) SIX-YEAR:	Three European Staff	2,000
	Four Makerere-Primary Teachers	400
	Two Instructors	120
	Other Charges—(a) Tuition	580
	(b) Boarding	1,800
		£ 5,000

21. This will give the following total recurrent expenditure:—

		£
10TH YEAR:	100 Schools (two-year) at £300	30,000
	20 Schools (four-year) at £2,500	50,000
	5 Schools (six-year) at £5,000	25,000
		£ 105,000
20TH YEAR:	160 Schools (two-year) at £300	48,000
	32 Schools (four-year) at £2,500	80,000
	8 Schools (six-year) at £5,000	40,000
		£ 168,000

(b) *Capital*—

22. If it is assumed that £2,500 is needed to establish a two-year school, £7,500 a four-year and £12,500 a six-year school, the following capital expenditure will be required:—

		£	£
1–10 YEARS:	40 Schools (two-year) at £2,500	100,000	
	15 Schools (four-year) at £7,500	112,500	
	3 Schools (six-year) at £12,500	37,500	
	Grants to existing schools	50,000	
			300,000
11–20 YEARS:	60 Schools (two-year) at £2,500	150,000	
	12 Schools (four-year) at £7,500	90,000	
	3 Schools (six-year) at £12,500	37,500	
			277,500
	Total		£ 577,500

III—TRAINING OF TEACHERS

Objective

23. To implement this plan teachers will have to be trained in sufficient numbers to—

(*a*) staff new schools;

(*b*) bring up the staff of existing schools to the requisite establishment;

(*c*) replace normal wastage.

24. (i) *Elementary Teachers.*—The table below is an analysis of the teachers required. The columns denote:—

(*a*) Teachers to be employed the following year in new schools (Table B).

(*b*) Teachers to be employed the following year in existing schools (paragraph 10).

(*c*) Total teachers to be employed the following year.

(*d*) The increase over the previous year's total.

(*e*) Wastage to be made good at ten per cent of previous year's total.

(*f*) The total needed to be in training.

TABLE C

Year	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)
—	—	3,000	3,000	—	—	—
1	150	3,000	3,150	150	300	450
2	300	3,000	3,300	150	315	465
3	525	3,000	3,525	225	330	555
4	750	3,000	3,750	225	352	577
5	975	3,000	3,975	225	375	600
6	1,200	3,000	4,200	225	397	622
7	1,425	3,000	4,425	225	420	645
8	1,650	3,000	4,650	225	442	667
9	1,875	3,000	4,875	225	465	690
10	2,100	3,000	5,100	225	487	712
11	2,325	3,000	5,325	225	510	735
12	2,550	3,000	5,550	225	532	757
13	2,775	3,000	5,775	225	555	780
14	2,900	3,000	5,900	125	577	702
15	2,975	3,000	5,975	75	590	665
16	3,000	3,000	6,000	25	597	622
17	3,000	3,000	6,000	—	600	600
18	3,000	3,000	6,000	—	600	600
19	3,000	3,000	6,000	—	600	600
20	3,000	3,000	6,000	—	600	600
21	3,000	3,000	6,000	—	600	600

(ii) *Lower Primary Teachers.*—A similar table can be prepared for Lower Primary Teachers, with the columns denoting:—

(*a*) Teachers to be employed two years later in new schools (Table B).

(*b*) Teachers to be employed two years later in existing schools (paragraph 11).

(*c*) Total teachers to be employed two years later.

(*d*) The increase over the previous year's total.

(*e*) Wastage to be made good at 10 per cent of previous year's total.

(*f*) Total to be accepted for training.

TABLE D

Year	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)
—	—	600	600	—	—	—
1	—	750	750	150	60	210
2	75	900	975	225	75	300
3	150	1,050	1,200	225	97	322
4	255	1,200	1,455	255	120	375
5	390	1,350	1,740	285	145	430
6	525	1,500	2,025	285	174	459
7	660	1,650	2,310	285	202	487
8	795	1,800	2,595	285	231	516
9	930	1,800	2,730	135	259	394
10	1,065	1,800	2,865	135	276	408
11	1,200	1,800	3,000	135	286	421
12	1,335	1,800	3,135	135	300	435
13	1,470	1,800	3,270	135	313	448
14	1,605	1,800	3,405	135	327	462
15	1,690	1,800	3,490	85	340	425
16	1,750	1,800	3,550	60	349	409
17	1,790	1,800	3,590	40	355	395
18	1,800	1,800	3,600	10	359	369
19	1,800	1,800	3,600	—	360	360
20	1,800	1,800	3,600	—	360	360
21	1,800	1,800	3,600	—	360	360

Incidence of Development

25. If the growth of the population after the end of the 20-year period is ignored it will be seen that the permanent production of teachers will have to be 600 Elementary and 360 Lower Primary Teachers annually (Primary and Makerere Teachers will be met from Maseno, Embu and Makerere, which are already provided for). If 25 students are taken to constitute a teacher-training class, there will be need for 24 permanent centres for Elementary Teachers, and, taking a slightly lower average class, 16 permanent centres for Lower Primary Teachers.

26. When the production needed is in excess of the output of the permanent centres the balance will have to be met from temporary classes, which can be attached to some of the new Post-primary courses pending their future development.

27. In the following table the columns denote:—

(*a*) The number of teachers to be accepted for training.

(*b*) The number of permanent centres needed.

(*c*) The number of new centres to be established each year.

(*d*) The number of temporary classes needed.

TABLE E

Year	Elementary Teachers				Lower Primary Teachers			
	(*a*)	(*b*)	(*c*)	(*d*)	(*a*)	(*b*)	(*c*)	(*d*)
1 ..	450	18	18	—	210	8	8	—
2 ..	465	18	—	—	300	12	4	—
3 ..	555	22	4	—	322	13	1	—
4 ..	577	23	1	—	375	15	2	—
5 ..	600	24	1	—	430	16	1	1
6 ..	622	24	—	1	459	16	—	2
7 ..	645	24	—	2	487	16	—	3
8 ..	667	24	—	3	516	16	—	4
9 ..	690	24	—	4	394	16	—	—
10 ..	712	24	—	4	408	16	—	—
11 ..	735	24	—	5	421	16	—	1
12 ..	757	24	—	6	435	16	—	1
13 ..	780	24	—	7	448	16	—	2
14 ..	702	24	—	4	462	16	—	2
15 ..	665	24	—	3	425	16	—	1
16 ..	622	24	—	1	409	16	—	—
17 ..	600	24	—	—	395	16	—	—
18 ..	600	24	—	—	369	16	—	—
19 ..	600	24	—	—	360	16	—	—
20 ..	600	24	—	—	360	16	—	—
21 ..	600	24	—	—	360	16	—	—

Estimates

28. (*a*) *Recurrent.*—In these estimates no account will be taken of the expenditure incurred by the temporary classes, for this will be borne by the funds provided for Post-primary education. Estimates are calculated as follows:—

	£
(i) ELEMENTARY TEACHERS' CENTRE—	
One European Principal	600
One African Assistant	160
Other Charges—(*a*) Tuition	90
(*b*) Boarding	250
	£ 1,000

(ii) Lower Primary Teachers' Centre—	
Two European Staff	1,200
One African Assistant (Makerere)	120
One African Assistant	60
Other Charges—(a) Tuition	320
(b) Boarding	500
	£ 2,200

29. This gives the total expenditure as:—

	Elementary Centres	Lower Primary Centres	Total
	£	£	£
Tenth year	24,000	35,200	59,200
Twentieth year	24,000	35,000	59,200

30. (b) *Capital.*—These estimates, as well as those for recurrent expenditure are for single courses, but it should be borne in mind that some centres may have parallel courses or even Elementary and Lower Primary courses combined. This may result in some savings in recurrent expenditure, but very little in capital. There are, of course, a number of centres already established, but most of these are in unsuitable or temporary buildings and many need re-siting. For this plan it is therefore assured that new centres will have to be established at a cost of £4,000 for an Elementary centre and £10,000 for a Lower Primary centre. The expenditure will therefore be:—

Year	Elementary		Lower Primary	
	Centres	Cost	Centres	Cost
		£		£
1	18	72,000	8	80,000
2	—	—	4	40,000
3	4	16,000	1	10,000
4	1	4,000	2	20,000
5	1	4,000	1	10,000
1–10 years	—	96,000	—	160,000
11–20 years	—	Nil	—	Nil

Total Expenditure—1–10 years £256,000
11–20 years .. .. .. Nil

IV.—SUMMARY OF EXPENDITURE

	Tenth Year	Twentieth Year
	£	£
(a) Recurrent—		
(i) Primary	425,000	550,000
(ii) Post-primary	105,000	168,000
(iii) Teacher Training	60,000	60,000
(iv) Other Charges	40,000	55,000
	630,000	833,000
(b) Capital—	1–10 Years	11–20 Years
(i) Primary	250,000	90,000
(ii) Post-primary	300,000	277,500
(iii) Teacher Training	256,000	Nil
£	806,000	367,500

Section X—Comments of the Committee on the Report of the Sub-Committee on

FORESTRY

106. With regard to the Report of the Forestry Sub-committee (Appendix 7, Volume II), the Committee is in agreement with the conclusions recorded in Part I of the report. It attaches very great importance to the conservation and development of the Colony's Forest Estate, it realizes the investment potentiality of expenditure incurred on forest conservation and development, and it has given much thought to the problem of achieving the main objectives indicated by the Sub-committee, with due regard to the financial resources of the Colony. Accepting, as it does, the principle that Kenya forests are a national asset and must be progressively managed, it considers the problems that present themselves for solution to be as follows:—

(*a*) What can be done (bearing in mind the necessity to conserve and improve the forest assets in the light of the criteria of paragraph 9) to increase the Colony's real wealth as quickly as possible;

(*b*) What finance is available to achieve this objective;

(*c*) What personnel and equipment can be acquired, with the finance available, to achieve the objective at (*a*).

107. In its consideration of these problems, the Committee examined the estimates of future local timber requirements given in paragraphs 50, 58, and 64 to 68 of the Sub-committee's report, and finds it difficult to accept them. It noted, for example, that the annual consumption of timber before the war was apparently about one-third of a cubic foot per head of the population, whereas the figure of five cubic feet is taken in paragraph 50 as the estimated requirement in 1980. The Committee also noted that in paragraph 108 of the Report on Post-War Forest Policy issued in 1943 by His Majesty's Forestry Commissioners in the United Kingdom total consumption (imports plus home production) in Great Britain is estimated at 1,000 million cubic feet "standing". When this figure is compared with the figure of 26½ million cubic feet given in paragraph 68 of the Sub-committee's report as estimated internal consumption in Kenya in 1980, and due regard is had to the vast difference in the size of the respective populations and also in potential uses for timber in the two countries, it is difficult to agree with the estimates of future timber requirements given in paragraph 68 of the Sub-committee's report; the Committee, in short, considers that they are too high.

108. For the purpose of a planting programme, however, the Committee considers it desirable to work on the basis of the figure of 5,700 acres per annum mentioned in paragraph 69 of the Sub-committee's report, but does not consider it necessary to increase this acreage to 10,000 by 1951, as suggested in Part III of that Report (page 134, Volume II). If, five years from now, there are more definite indications than exist at present that future timber requirements will necessitate a larger planting programme than that suggested above, the necessary steps can be taken thereafter, but an annual planting programme of some 6,000 acres should provide an adequate margin to meet potential increases in demands.

109. In regard to the objective of a yield of 45,000,000 cubic feet per annum in 1980 from a planted acreage of 5,700 acres in 1945, it is suggested in the Conservator of Forests' statement in Part III of the Report that capital expenditure of the order of £819,000 and recurrent expenditure of the order of £9,590,000 is necessary during the years 1945 to 1980. The Committee understands that in 1945 a planting programme equivalent to more than half of the 6,000 acres recommend by the Sub-committee in paragraph 69 of their report, and endorsed by this Committee in paragraph 108 above, has been carried out with a comparatively small staff at a cost less than a quarter of that proposed by the Sub-committee.

110. The Committee realizes, of course, the necessity for adequate staff and adequate funds to ensure also that all forests are brought under scientific management as soon as possible, as recommended by the Sub-committee in its report; nevertheless, it considers that the Forest Department should be able to achieve the double objective of increased production and adequate forest management by the expenditure of more modest sums than those mentioned in the tables given in Part III of the report. It should be mentioned that considerable increases in staff and in financial provision have been approved since the Sub-committee's report was drafted, and have been reflected in the 1946 estimates, not only in the ordinary budget but also in the Development and Reconstruction Authority's Estimates. The establishment of Foresters (including Senior Foresters), for example, has been increased from 16 to 32; provision has been made for a mycologist, an entomologist, a soil chemist, a staff surveyor and various other officers, and the total estimated expenditure on the Forest Department is £152,688 in 1946, as compared with an estimate of £84,336 in 1945. But even this high figure of £152,688 (of which some £40,000 is non-recurrent expenditure) falls far short of the figure of £274,000—for recurrent expenditure alone—suggested as average annual expenditure in Part III of the Sub-committee's report. Finance on the scale envisaged in this part of the report is not available for forestry purposes, and forestry development plans must be framed with that fact in mind. The Committee therefore submits the following recommendations:—

(1) The establishment of Foresters in the Department should be increased from the present figure of 32 to 40, including provision for leave movements. In 1945 the number of Foresters was 16.

(2) The total annual recurrent expenditure on the Department, based on 35 forest districts in eight divisions and an establishment of 40 Foresters should not exceed an annual average of £150,000 during each of the next 35 years. This figure is based on the estimates given in Part III of the Sub-committee's report, but suitably amended after consultation with the Conservator of Forests.

(3) The Forest Replanting and Development Fund (which it is estimated should amount to at least £400,000) should be used to finance extraordinary expenditure on roads, buildings, plant and similar items of a capital nature. A revised estimate amounting to some £325,000 has been prepared, after consultation with the Conservator of Forests, for such capital expenditure, but this figure does not cover replacements of motor vehicles and tractors. The Committee recommends that a further

sum of £50,000 should be included for this purpose, which should suffice for replacements over the next five to ten years. Thereafter, when forest revenue should have become more buoyant, such expenditure should be borne by the ordinary Estimates, on the basis suggested in paragraph 113 below. Most of the £375,000 required for buildings and roads should be spent within the next ten years, but it is suggested that the remaining sum of £25,000 should be kept in reserve for expenditure during the remaining years of the period up to 1980. If further funds were required for capital expenditure within that 35 year period, the question of their provision and the source of provision would have to be considered in the light of the financial circumstances at the time.

(4) (*a*) The royalty rate for exotic softwoods should be increased to 40 cents per cubic foot, which is the present rate for indigenous softwoods; and

(*b*) royalty rates generally should be reviewed, since the Committee is informed that they have, by and large, been static since 1910, and since it is essential in view of the increased expenditure on forest development now proposed to ensure that the Government is obtaining an adequate return.

(5) The Forest Department should be required to carry out a planting programme of not less than 6,000 acres of softwoods per annum, within the limits of the expenditure mentioned above, and working plans should be framed accordingly.

111. Table I shown at the end of this section could then be substituted for that given near the end of the Sub-committee's report as regards the period 1946/1980. It will be observed that the calculations indicate that the total of the estimated revenue over the 35 years' period will exceed the total of the estimated expenditure by some £600,000.

112. As regards the period beyond 1980, Table II at the end of this section gives estimated results for the years 1981-95, on the assumption that further capital expenditure of the order of £400,000 will be incurred during the first ten years of that period, that the recurrent expenditure of the Department will not exceed £175,000 per annum, and that the revenue from plantations will be considerably less, in view of the comments in paragraph 107 above, than that shown in Table II at the end of the Sub-committee's report. It will be observed that the total of the estimated revenue during the fifteen-year period will exceed the total of the estimated expenditure by some £9,145,000.

113. The Committee is, of course, fully aware of the difficulty of forecasting yields of timber and sales of timber over periods of 35 or 50 years ahead, quite apart from the difficulty of forecasting the general price level. It realizes that even if the planting programme of approximately 6,000 acres a year is carried out over the next 35 years, there is no guarantee that sales of timber will come anywhere near the estimated sales. Nevertheless, it considers that the tables given at the end of this section are of value, since they show that expenditure on the production of softwoods in Kenya might

pay very handsome dividends, quite apart from the value of the forests so established from the point of view of their beneficial effect on climate and water supply—*see* paragraph 33 of the Sub-committee's report. The Committee realizes that the increase in recurrent expenditure suggested in paragraph 110 above is heavy but considers that it can properly be regarded as an investment which should give excellent returns in future years. Moreover, the Committee is of the opinion that the increase in recurrent expenditure will probably be set off, even within the next few years, by revenue to an extent greater than that indicated in Table I at the end of this section. In this connexion the Committee recommends that the present arrangement whereby forest revenue in excess of £50,000 per annum is paid to the Forest Replanting and Development Fund should cease at the end of 1947, and that after that date the ordinary Estimates and not the Development and Reconstruction Authority Estimates (apart from the capital expenditure to be financed from the £400,000 Fund) should carry the full cost of the Forest Department, including expenditure on development.

114. Provision is made under Head 7 of the 1946 Estimates of the Development and Reconstruction Authority of £38,213 for the personal emoluments and other charges of Forest Department development staff. Owing to difficulties of recruitment it is estimated that not more than £19,500 will in fact be spent on this account in 1946, while the estimate of expenditure in 1947 is £39,500. On the basis of the arrangements proposed in the preceding paragraph the total amount involved, viz. £59,000, should be borne as a charge against the Development and Reconstruction Fund, and provision is included accordingly in the summary of financial implications at the end of this section.

115. The Committee wishes to stress the importance of the subject referred to in paragraphs 72 *et seq.* of the Sub-committee's report, namely employment in forest and allied industries. This is a most valuable aspect of forest management, and the possibility referred to in paragraph 77 of the Sub-committee's report of accommodating and employing in forest areas portions of native communities moved as a temporary measure from the eroded parts of the native land units while their own land is being reconditioned, is one that merits careful examination. The Committee is glad to learn that the Government has the matter under review.

116. The Committee also attaches importance to the point made in paragraphs 77 and 79 of the Sub-committee's Report that the proposed extension in the forestry planting programme will result in a considerable increase in native production of foodstuffs.

117. The Committee endorses the recommendation in paragraph 78 of the Sub-committee's Report that the system of employing squatters in forests should continue, subject to the safeguards mentioned in that paragraph. If that system were discontinued, the cost of the forest development programme envisaged would be greatly increased.

118. The Committee understands that there is a proposal under consideration at present for the establishment of an East African Forest Products Research Centre. The scheme has been prepared by the Conservator of Forests,

Kenya, and the Governments of the Tanganyika Territory and the Uganda Protectorate have expressed their concurrence in principle with the proposal. The capital cost of the scheme is estimated at £14,000, which it is contemplated should be borne by the Colonial Development and Welfare Vote, either central or inter-territorial allocations, and not by the Kenya allocation; no estimate of the recurrent cost is yet available.

TABLE I—FIRST ROTATION

QUINQUENNIUM	REVENUE			EXPENDITURE			Net Result	Running Result
	Plantations	Other	Total	Extra-ordinary	Recurrent	Total		
	£	£	£	£	£	£	£	£
1946–50	—	390,000	390,000	250,000	750,000	1,000,000	— 610,000	— 610,000
1951–55	—	390,000	390,000	125,000	750,000	875,000	— 485,000	—1,095,000
1956–60	—	390,000	390,000	25,000	750,000	750,000	— 360,000	—1,455,000
1961–65	560,000	390,000	950,000		750,000	750,000	+ 200,000	—1,255,000
1966–70	672,000	390,000	1,062,000		750,000	775,000	+ 287,000	— 968,000
1971–75	768,000	390,000	1,158,000		750,000	750,000	+ 408,000	— 560,000
1976–80	1,520,000	390,000	1,910,000		750,000	750,000	+1,160,000	— 600,000
Totals	—	—	6,250,000	400,000	5,250,000	5,650,000	—	+ 600,000

TABLE II—FIRST FIFTEEN YEARS OF SECOND ROTATION

1981–85	2,000,000	390,000	3,390,000	250,000	875,000	1,125,000	+2,265,000	+2,265,000
1986–90	4,000,000	390,000	4,390,000	150,000	875,000	1,025,000	+3,365,000	+5,630,000
1991–95	4,000,000	390,000	4,390,000	—	875,000	875,000	+3,515,000	+9,145,000
Totals	—	—	12,170,000	400,000	2,625,000	3,025,000	—	+9,145,000

SUMMARY OF RECOMMENDATIONS

Paragraph 106.—The Committee endorses the conclusions recorded in Part I of the Sub-committee's Report.

Paragraph 110.—(1) The number of Foresters should be increased from 32 to 40 (including provision for leave movements). In 1945 the number of Foresters was 16.

(2) The total annual recurrent expenditure of the Forest Department should not exceed an annual average of £150,000 during each of the next 35 years.

(3) Forest Replanting and Development Fund (expected to amount to £400,000) should be applied to—

	£
Roads, buildings, plant and similar items of a capital nature	325,000
Replacement of motor vehicles and tractors during first five to ten years	50,000
Reserve	25,000
	£400,000

(4) (*a*) Royalty rate for exotic softwoods should be increased to 40 cents per cubic foot, which is the present rate for indigenous softwoods.

(*b*) Royalty rates generally should be reviewed.

(5) The Forest Department should be required to plant not less than 6,000 acres of softwoods per annum within limits of expenditure mentioned above, and working plans should be framed accordingly.

Paragraph 113.—After the end of 1947 the total forestry revenue should be credited to general revenue and payments into Forest Replanting and Development Fund should cease. The cost of the Forest Department development staff (shown in the 1946 Estimates of the Development and Reconstruction Authority) should be borne by the Development and Reconstruction Fund until the end of 1947.

Paragraph 117.—The recommendation in paragraph 78 of the Sub-committee's Report are endorsed.

SECTION X—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended	Kenya Development and Reconstruction Fund	Loans for self-reimbursing expenditure	Kenya Colony Estimates		Remarks
			Estimated gross increased recurrent expenditure at end of 10 years	Estimated increased annual revenue at end of 10 years	
1	2	3	4	5	6
	£	£	£	£	
SECTION X—FORESTRY					
Capital Expenditure (from Forest Replanting and Development Fund) . .	400,000	—	—	—	
Recurrent estimated expenditure in 1946 and 1947 in respect of staff shown in D.A.R.A. Estimates, 1946, Head 7— 1946 : £19,500 1947 : £39,500	59,000	—	—	—	
Recurrent expenditure to be met in full from Colony's ordinary Estimates after 1947, and total annual recurrent expenditure not to exceed £156,000 average during next 35 years	—	—	76,000	—	
Totals . . £	459,000	—	76,000	—	

Section XI—Comments of the Committee on the Report of the Sub-Committee on

HEALTH, HOSPITAL SERVICES AND NUTRITION

119. The Committee does not propose to concern itself too much with the purely professional aspects of the Report of the Sub-committee on Health, Hospital Services and Nutrition (Appendix 8, Volume II). It would refer to the principle laid down in paragraph 32 of this Report, in which it is stated that from a development point of view the most substantial dividends "are yielded by a concentration of resources on preventive rather than curative medical services." It therefore recommends that, in regard to the provision of services, the following priorities should be observed:—

(i) the provision of health centres on the basis recommended in paragraphs 41 to 44 inclusive of the Sub-committee's Report, but subject to the limitations of finance (*see* paragraph 121 below).

(ii) the expansion (as recommended in paragraph 37 of the Sub-committee's Report) of the present training establishment for Hospital Assistants in Nairobi in order that it may also conduct training courses for Health Inspectors and Laboratory Assistants (with particular reference to the training of African personnel) and also for nurses drawn from suitable strata of the African female population;

(iii) the improvement of existing hospitals, not so much by increasing the existing number of beds, but by the provision of adequate facilities (of the kinds mentioned in paragraph 66 of the Sub-committee's report) for the proper fulfilment of the functions of the hospitals;

(iv) the completion of hospital programmes already authorized or begun and also increases in the number of beds in certain special areas of dense population, where the provision of additional beds is essential.

Subject to the above priorities, and subject to the limitations of finance indicated in paragraph 121 below, the Committee is in general agreement with the recommendations of the Sub-committee, except as regards the proposal for the appointment of a Royal Commission—*see* paragraph 139 below.

120. Other additional facilities are desirable, but, in view of the finance available, must have a low priority. Into this category falls the vast expansion of the hospital services that would be necessary if standards were to approach those obtaining in the older and far richer countries of Western Europe and America. This decision is a hard one to make, but the Committee has no hesitation in doing so, bearing in mind the stage of economic development reached in Kenya, and the fact that the present provision of hospital beds for Africans is now well in excess of the figure of 3,000 mentioned in paragraph 51 of the Sub-committee's report, and therefore at a rate of approximately one per 1,000 of the population. In this connexion the provision of "cottage

hospitals" falls into a low priority, except possibly in areas remote from centres where medical and hospital facilities are already available. As regards the hospital programme that it is possible to implement, the Committee wishes to stress the *importance of the provision of adequate ambulance services, linked with a widespread dispensary system, supplementing the health centres referred to as priority* (i) in the list given in paragraph 119 above. In this way the Committee is of the opinion that the most economical and effective use can be made of the limited resources available and feels sure that Local Authorities will provide for such expansion of present ambulance services as they can afford.

121. At an early stage in its deliberations the Committee, having due regard to the priorities mentioned in paragraph 119 above and to the limitation of funds, asked the Director of Medical Services to prepare a list of his most important proposals, involving a capital expenditure of £750,000. The list submitted was subsequently amended after discussion with the Committee, and in its amended form as adopted by the Committee is given as Appendix A at the end of this section. The total capital expenditure shown amounts to about £850,000 and the recurrent expenditure to some £86,000 at the end of the ten-year period. The Committee wishes to make it clear that, although it agrees with the proposals in Appendix A, it does not regard the amounts shown against each of the items as definitely fixed, since in many cases the amounts shown are only approximate estimates. It considers that, subject to the priorities mentioned in paragraph 119 above, the various items and the expenditure thereon should be determined, subject always to the approval of the Legislative Council, by the Member for Health and Local Government in consultation with the Director of Medical Services and, in suitable cases, the Development and Reconstruction Authority, within the totals of £850,000 mentioned above for capital expenditure and £86,000 for recurrent expenditure. It should be noted that items 5 to 20 are not necessarily in order of priority.

122. As will be noted from Appendix A, provision has been made for the establishment, as suggested in paragraph 9 of the Sub-committee's report, of a School Medical Service, to which the Committee attaches considerable importance. In present circumstances the Committee does not consider that the inaguration of a Dental Service would be justified.

In the 1946 Estimates provision has been made for the attachment of a Medical Officer to the Labour Department to inaugurate a Labour Medical Service, and later in this section the Committee supports the proposal to establish an Asian Hospital Authority, a Nursing Council and a Nutrition Board.

The suggested organization of a Practitioner and Specialist Service should, in the Committee's view, be considered after the two Committees now dealing with medical matters have reported.

In regard to European and Asian hospitals, the Committee wishes to record its support, in principle, of the system of Hospital Authorities, and to recommend that all such hospitals should ultimately come under the wing of these Authorities. The Committee, however, recognizes the fact that day-to-day management must, in the case of voluntary hospitals, remain the responsibility of the local board of management.

123. Reference is made in paragraphs 14 to 16 of the Sub-committee's report to the subject of medical research. The Committee understands that an investigation into medical research in East Africa will shortly be carried out by an expert from the United Kingdom, and meanwhile confines its recommendations to support of the proposal in paragraph 16 of the Sub-committee's report, but on a slightly different basis. It recommends that the general establishment of medical officers be increased by one to allow suitable medical officers to be attached, one at a time, to the Medical Research Laboratory for appropriate periods. It also recommends the provision of funds, not exceeding £10,000, for the additional accommodation required at the Medical Research Laboratory, as recommended by the Sub-committee.

124. As regards nutrition, which is referred to in paragraphs 17 to 19 and in Part III of the Sub-committee's report, the Committee endorses the recommendation in paragraph 19 for the establishment of the proposed Nutrition Board and for the appointment of a suitable officer as Secretary or Executive Officer to the Board. It also recommends that a nutritional survey, as proposed in paragraph 71 of the Sub-committee's report, but on a sample basis, should be carried out, with the object of determining the nutritional value of the various commodities. The Committee would, however, observe that there is reason to believe that any malnutrition existing is probably more prevalent among Africans resident in native areas than among Africans who leave their reserves and are employed outside them. Generally speaking, it is true to say that much more attention is now being paid to the feeding of employed labour than was the case a few years ago. There is still a long way to go before a balanced diet will be general among such labour, but much progress is being made. Equally satisfactory progress cannot be reported among Africans in the native areas, and it is in regard to these that a nutritional survey on a sample basis will prove to be most valuable.

125. A note of warning is necessary in regard to the dietetic requirements suggested in paragraphs 72 to 76 of the Sub-committee's report, which are high even by comparison with those enjoyed by workers in heavy industries in advanced countries. The Committee is advised that the figures given for these requirements must be regarded as optimum in every sense, and that the prospect [illegible] such targets being reached in the near future is slight. In this connexion, the Committee would like to stress that, although it attaches great importance to the provision of a balanced diet, the provision of a balanced diet does not in itself provide a full incentive to increased output, which is of primary importance. Similarly, experience has shown that improving the physical condition of the worker does not necessarily increase output. In order to increase output the *will to work* must be there, and unless incentives to promote such a frame of mind can be found, better feeding, which in itself will send up costs, constitutes an economic hazard. The Committee makes a recommendation in paragraph 155 below regarding research into the problem of finding suitable incentives for the African to advance himself.

Mr. Amin considers that the question of adequate diet and better feeding should not be confused with possible increases in costs but should be considered independently, and denies that it would constitute an economic hazard.

126. We are informed that the Labour Advisory Board has under consideration the question of introducing a minimum scale of diet. The Committee wishes to stress the point that the target of a balanced diet is best reached by practicable stages and that care must be taken lest the best be allowed to become the enemy of the good.

127. In regard to the feeding of school children—*see* paragraph 78 of the Sub-committee's report—the Committee is of the opinion that a critical examination of the feasibility of such a course of action in Kenya, both from a nutritional and from a financial point of view, is necessary before embarkation upon such a policy could be recommended.

128. The Committee endorses the suggestion that a Nursing Council should be established on the lines suggested in paragraphs 20 to 24 inclusive of the Sub-committee's report, under the aegis of the Member for Health and Local Government, and notes that preliminary discussion on the lines proposed in paragraph 24 have already taken place.

129. In regard to the administration of personal and non-personal services, the Committee supports the recommendations in paragraphs 25 to 28 of the Sub-committee's Report with the exception of (*c*) in paragraph 26, which relates to Mission Hospitals, and of the last part of (*e*) in the same paragraph, which deals with an Authority for a Practitioner, Specialist and Dental Service. It agrees that personal services, both preventive and curative, should be under the direct control of the Medical Department, and that non-personal preventive services (environmental hygiene) should be operated by the Local Authorities, subject to inspection by the Medical Department. Here, however, it is necessary to observe that some Local Native Councils are not yet at a stage sufficiently far advanced for them to be made responsible for such services, in which case a continuation of direct control by the Government will be necessary for some time. The Committee is in full agreement with the views expressed by the Director of Medical Services that any measures necessary for the control of epidemics should be under his direction.

130. In view of the recommendation that the Government should eventually assume the direct control of personal medical services and responsibility for their finance, the Committee wishes to record its appreciation of the valuable work done by voluntary agencies, such as the medical missions, and to state that it does not share the view expressed in paragraph 26 (*c*) of the Sub-committee's report that Mission hospitals and dispensaries should be incorporated into the general service on agreed terms without delay. In the Committee's opinion their services should continue to be made use of in the future, and as much independence should be retained by such agencies as is compatible with sound administration. The Committee further recommends that the policy of grants-in-aid should be continued and that control should normally take the form of advice and persuasion.

131. In regard to personal medical services, the Committee recommends that wherever possible the principle of making a suitable charge for services rendered, whether it be to Europeans, Asians or Africans, should be applied, but recognizes that, in cases of inability to pay, such services would not be withheld. At present charges are made to Europeans and Asians, but not to Africans. If the principle of payment by Africans is accepted, then the detailed arrangements should be the subject of a special inquiry.

132. As regards the financial proposals in paragraph 29 of the Sub-committee's report, the Committee considers that the question of increasing subventions to local authorities should be considered on the merits of each case as it arises. As regards paragraph 30, the Committee has made provision for township water supplies in Section XIII of this report, and recommends that a block sum of £50,000 be provided for sewerage and anti-malarial drainage schemes in the areas of local authorities. The question whether such schemes should be financed by loans, or partly by free grants partly by loans, should be determined on the merits and according to the nature of each case.

133. The Committee endorses the proposals and recommendations of the Sub-committee in paragraphs 31-33 and paragraphs 35-37 regarding staff. It considers the proposal in paragraph 37 for the expansion of the present training establishment in Nairobi for African staff to be of special importance. As regards the proposal in paragraph 34 that Asian Medical Officers with registrable qualifications obtained abroad should be engaged to replace gradually the present staff of Sub-Assistant Surgeons, the Committee wishes to record its view that, as far as is practicable, European Medical Officers and Asian Sub-Assistant Surgeons should be gradually replaced by African Assistant Medical Officers, subject to the principle laid down in paragraph 31 of the Sub-committee's report that each of the three main communities should look to members of its own community to provide, in personal medicine, the necessary personnel to attend to its own needs.

134. As regards paragraph 38, the Committee understands from the Director of Medical Services that he does not regard as necessary the proposed training establishment for African midwives at Kisumu, in view of the training facilities to be provided at Nairobi.

135. As regards the specialist officers referred to in paragraph 33 of the Sub-committee's report, the Committee is of the opinion that, within the limitations of finance available, all possible steps should be taken to prevent the spread of venereal disease, tuberculosis, leprosy and other contagious diseases. Provision has been made in Appendix A.

136. Tuberculosis, though it at present casts an ugly shadow over certain of the more densely populated parts of the Colony, possesses a secondary implication which it would be improper for us, as a Development Committee, to ignore. The Committee is advised that the climate of the Kenya Highlands is eminently suitable for the treatment of tubercular conditions. The Committee therefore recommends that the possibility of

the Government establishing institutes for clinical treatment of tubercular diseases and for research should be examined with a view to building up a name for the Colony as a treatment centre. In this connexion it is essential that all possible encouragement should be given to the development of private enterprise in this field. The establishment of such institutions, both by the Government and by private enterprise, would have not only the effect of combating tuberculosis in the Colony, but also from an economic point of view, the important result of attracting to Kenya for treatment tubercular patients from other colonies and, indeed, from other parts of the world. Were Kenya to be established in such a position, a valuable invisible export would arise through the money brought into the Colony and spent here by patients from abroad. In this connexion it is significant that in Switzerland tubercular patients, coming as they do from many countries, add an important quota to the national income. It is appreciated that the establishment of Kenya as a centre for the treatment of tuberculosis would be a long-term proposition, and the first step is to establish an institute for the study and treatment of tubercular diseases. If this were successful, private enterprise, as in Switzerland, would undoubtedly be attracted, with useful results, both from a medical and economic point of view.

The Committee understands that the Director of Medical Services proposes personally to examine the position as regards tuberculosis. Meanwhile, it recommends that provision should be made for an African institute and for the erection of additional accommodation at the Infectious Diseases Hospitals at Nairobi and Mombasa for the treatment of European and Asian cases.

137. The Committee has given special consideration to the question of combating the ravages of malaria throughout the Colony and has obtained the following note on the question from the Director of Medical Services:—

"The control of malaria, especially its upward creep into the Highlands, is of the highest importance to the health and prosperity of the Colony by any standard. The necessary organization for control should be as follows:—

1. At the centre, the Division of Insect-borne Diseases should be strengthened and charged with the functions of—

(*a*) investigating the efficiency of insecticides such as D.D.T. and of advising on their practical application;

(*b*) undertaking surveys into the incidence of mosquitoes, malarial and otherwise, in any area and the effect on their prevalence of existing or proposed drainage schemes.

The duties of the Division of Insect-borne Diseases would be primarily research and the correlation of information, but at certain stages when investigations were carried out on a large scale its work would amount to schemes of control.

2. In municipalities the public health and engineering departments of local authorities should, with the advice and assistance of the Division, be responsible for practical schemes of mosquito control, in the form of drainage, spraying, canalization of streams, etc.

3. In towns and the settled areas the present organization of officers of the Medical Department and Administration should be the counterpart of the public health and engineering Departments of local authorities.

4. In native areas the same two departments would continue their work but the appointment of Health Officers, elsewhere recommended, would increase the attention paid to the problem.

Briefly, the Division of Insect-borne Diseases should initiate, correlate and promote anti-malarial measures throughout the Colony, utilizing and stimulating the services of local authorities and Government departments.

Financial assistance to municipalities would consist of the reimbursement of one-half of expenditure on malarial control, which is already payable by statute, together with such other help for local authorities as is mentioned in the Report of the Committee. Where no local authority existed, or where the local authority was insufficiently advanced to accept responsibility, expenditure would inevitably fall to be met by the Government, but as soon as a local authority is in a position, and prepared, to accept responsibility it should be eligible for at least the same financial assistance from the general taxpayer as is provided for under the Local Government (Municipalities) Ordinance."

138. The Committee has discussed with the Director of Medical Services the question of the additional staff required for the Division of Insect-borne diseases and has made provision for the most urgent requirements under item 13 of Appendix A. Provision for the necessary drugs, equipment, etc., has been included under item 15 of Appendix A. Provision is also included in that Appendix for the approved Colonial Development and Welfare Vote Scheme for Malaria Control in the Highlands.

139. The Committee gave full consideration to the recommendation in paragraph 82 of the Sub-committee's report that a Royal Commission should be appointed, but came to the conclusion that the present time is inopportune for such an inquiry; it suggests that the matter be reviewed in two or three years.

SUMMARY OF RECOMMENDATIONS

Paragraph 119.—Provision of Health Centres, expansion of present training establishment for African personnel, improvement of existing hospital conditions and completion of hospital programmes already authorized or begun to have, in the order stated, priority over all other projects.

Paragraph 120.—Widespread expansion of hospital accommodation and services should have a low priority, but provision of adequate ambulance services linked with a widespread dispensary system should have a high priority.

Paragraph 121.—Capital expenditure should be kept within the sum of £850,000 and increased annual recurrent expenditure within the sum of £86,000.

Paragraph 122.—All European and Asian hospitals should ultimately come under the wing of the Hospital authorities.

Paragraph 123.—The general establishment of medical officers should be increased by one to allow suitable medical officers to be attached, one at a time, to the Medical Research Laboratory; and funds should be provided for additional accommodation at the Laboratory.

Paragraph 124.—Establishment of a Nutrition Board and appointment of a Secretary (or Executive Officer) recommended; nutritional survey on a sample basis should be carried out.

Paragraph 128.—Endorses suggestion that a Nursing Council should be established.

Paragraph 129.—Personal health services, curative medicine and the control of epidemics should be under the direct control of the Medical Department; and non-personal preventive services should be administered by local authorities.

Paragraph 130.—Voluntary agencies should continue to be used in future, with preservation of independence as far as possible, and policy of grants-in-aid should be continued.

Paragraph 131.—Charges for personal medical services rendered should be made in the case of all races, including Africans.

Paragraph 132.—A block allocation should be provided for sewerage and anti-malarial drainage schemes in the areas of local authorities, such schemes to be financed by loans, or partly by free grants and partly by loans.

Paragraph 133.—Proposals and recommendations in paragraphs 31-33 and 35-37 of the Sub-committee's report endorsed.

Paragraph 136.—Possibility of establishing an institute for tubercular diseases should be examined with a view to building up a name for the Colony as a centre for the treatment of those diseases. Interim provision recommended.

Paragraph 139.—Conclusion reached that the present time is inopportune for the appointment of a Royal Commission proposed in paragraph 82 of the Sub-committee's report, but suggestion made that matter should be reviewed in two or three years.

SECTION XI—SUMMARY OF FINANCIAL IMPLICATIONS

APPENDIX A

A.—FINANCIAL IMPLICATIONS OF PROPOSALS MADE BY DIRECTOR OF MEDICAL SERVICES AND RECOMMENDED BY COMMITTEE

Proposals Recommended	Kenya Development and Reconstruction Fund	Loans for self-reimbursing expenditure	Kenya Colony Estimates		Remarks
			Estimated gross increased recurrent expenditure at end of 10 years	Estimated increased annual revenue at end of 10 years	
1	2	3	4	5	6
	£	£	£	£	
SECTION XI—HEALTH, HOSPITAL SERVICES AND NUTRITION					
1. Twenty Health Centres at £5,000 each, Government half share of capital and recurrent expenditure	50,000	—	13,270	—	See paragraph 42 of Sub-Committee's Report. For details of recurrent expenditure see note (a) below.
and free grant (suggested) from C.D. and W.V. of other half share of capital to Local Authorities	50,000	—	—	—	
2. Training Centre	70,000	—	10,000	—	
3. Improvements of Existing Hospitals	190,000	—	—	—	
4. Completion of Group Hospital	250,000	—	17,596	—	For details of recurrent expenditure, see note (b) below.
5. African Hospital, Voi	5,000	—	25	—	See note (c) below
6. African Hospital, Malindi	12,500	—	100	—	
7. Provision for capital works included in 1946 Estimates of D.A.R.A. viz: General Dispensary, Nairobi, Mathari Mental Hospital extensions, African Hospital, Kitale, extensions	76,950	—	—	—	
8. Tuberculosis Clinical Institutes (additional accommodation)					
(i) African Institute	12,500	—	14,548	—	For details of recurrent expenditure, see note (d) below.
(ii) Additional accommodation at Infectious Diseases Hospitals, Nairobi and Mombasa, for treatment of European and Asian cases	5,000				
9. School Medical Service	—	—	7,353	—	For details of recurrent expenditure, see note (e) below.
10. Leprosy—Initial provision pending report of expert	15,000	—	1,000	—	
11. Additional Accommodation, Research Laboratory (not exceeding £10,000)	Table B.	—	—	—	See Table B.
12. Hospitals, Mombasa	55,000	—	4,224	—	See note (f).
13. Additional Staff for Division of Insect-borne Diseases (European and African entomological staff)	—	—	1,000	—	

SECTION XI—SUMMARY OF FINANCIAL IMPLICATIONS—Contd.

Proposals Recommended 1	Kenya Development and Reconstruction Fund 2	Loans for self-reimbursing expenditure 3	Kenya Colony Estimates: Estimated gross increased recurrent expenditure at end of 10 years 4	Kenya Colony Estimates: Estimated increased annual revenue at end of 10 years 5	Remarks 6
SECTION XI (*contd.*)	£	£	£	£	
14. Ambulances—43 at £500 each. It is suggested that these should be purchased by Local Authorities as a charge against their own funds . .	—	—	—	—	
15. Medical and Surgical Stores and Equipment, increase of, say £12,500 per annum . .	—	—	12,500	—	
16. Sewerage and anti-Malarial Schemes in Local Authority Areas	50,000	—	—	—	
17. Training of Health Inspectors (3 years scheme) . .	5,000	—	—	—	Includes salaries.
18. Secretary or Executive Officer to Nutrition Board, including travelling, say	—	—	2,000	—	
19. Increase of two in establishment of Medical Officers to provide (a) for attachment of one Medical Officer to Medical Research Laboratory (*vide* paragraph 123 of report) and (b) for appointment of one Medical Officer for venereal diseases work . .	—	—	2,000	—	
20. Malaria Control in the Highlands . .	Table B.	—	—	—	See Table B.
Totals . . £	846,950	—	85,616	—	

B.—KENYA SCHEMES FOR RESEARCH, THE COST OF WHICH IT IS HOPED WILL BE BORNE, WHOLLY OR IN PART, AS A CHARGE AGAINST THE COLONIAL DEVELOPMENT AND WELFARE VOTE CENTRAL ALLOCATION

Proposals Recommended	Total Capital Expenditure proposed	C.D. and W.V. Central Allocation: Capital	C.D. and W.V. Central Allocation: Recurrent	Kenya Colony Estimates—Estimated gross increased recurrent expenditure at end of 10 years	Remarks
SECTION XI—HEALTH, HOSPITAL SERVICES AND NUTRITION	£	£	£	£	
Additional Accommodation, Medical Research Laboratory . .	10,000	10,000	—	—	
Malaria Control in the Highlands (C.D. and W.V. Scheme R. 108)	9,500	9,500	—	—	
Totals . . £	19,500	19,500	—	—	

Note (a)

Health Centres—Recurrent Expenditure

	Total Increased Annual Recurrent Expenditure in Tenth Year £
10 Health Officers	10,000
10 Health Visitors	6,200
6 Health Inspectors	3,000
African Staff	1,500
Maintenance and Operation of Vehicles	1,000
	£21,700
Other Charges, add 20 per cent	4,340
Ten vehicles at £500 each—say one vehicle in tenth year	500
Total per annum ...	£26,540
Expenditure to be borne by Local Authorities per annum	£13,270
Net Charge upon Colony's Estimates per annum ...	£13,270

The Health Officers would be qualified medical men, preferably holders of the D.P.H., while the Health Visitors would be holders of the Health Visitors' Certificate. It is contemplated that there would be ten main Health Centres and that each Health Centre should have a Health Officer and a Health Visitor attached to it. The remaining ten Health Centres would be on a smaller scale and would be linked with Native Civil Hospitals and would be operated by the Medical Officer in charge of the Hospital, together with the Nursing Sister and the African Assistant Medical Officer.

Note (b)

Increased Recurrent Expenditure on Completed Group Hospital

	Total Increased Annual Recurrent Expenditure in Tenth Year. £
1 Senior Medical Officer at £1,100	1,100
3 Specialists at £1,100	3,300
2 Medical Officers	2,000
1 Asian Medical Officer	600
2 African Assistant Medical Officers	384
1 Assistant Matron	500
2 Senior Nursing Sisters	1,000
5 Probationers	600
10 Asian Nurses	1,820
1 Hospital Secretary	600
1 Radiographer	540
2 Housekeepers	420
2 European Female Clerks	600
50 African Staff, male and female	1,200
Other Charges, add 20 per cent	2,932
Total ...	£17,596

Note (c)

African Hospital, Voi.—Estimate of capital expenditure may in the event prove too low, but supplementary funds could be found from savings under item 3 in list above—Improvement of Existing Hospitals. The increased recurrent expenditure is for additional African staff.

Note (d)

Tuberculosis Clinical Institute—Recurrent

	Total Increased Annual Recurrent Expenditure in Tenth Year £
1 Tuberculosis Specialist	1,100
1 Medical Officer	1,000
4 Nursing Sisters	1,920
2 Asian Nursing Sisters	364
1 Wardmaster/Radiographer	540
20 African Staff	7,200
Other Charges, add 20 per cent	2,424
Total ...	£14,548

Note (e)

School Medical Service—Recurrent Expenditure

	Total Increased Annual Recurrent Expenditure in Tenth Year £
2 Medical Officers (£720 per annum average)	2,000
1 Dental Surgeon (£720 per annum average)	1,000
2 Asian Medical Officers (£500 per annum average) ...	1,200
4 African Assistant Medical Officers (£150 per annum average)	768
2 Nursing Sisters (£420 per annum average)	960
1 Asian Clerk (£146 per annum average)	200
Other Charges, add 20 per cent	1,225
Total ...	£7,353

Note (f)

Hospitals, Mombasa.—The existing African hospital at Mombasa (which includes a number of beds for Asian patients) is inadequate for requirements and its condition is such that it should be replaced by a new hospital. In any case, the existing hospital occupies valuable land which could be better used for other purposes. The cost of a new African hospital, including an administrative block, operating theatres and other necessary ancillary buildings, is estimated to be £40,000.

Increased annually recurrent expenditure at the end of ten years would be:—

	£
1 Medical Officer	1.000
1 Wardmaster	540
1 Senior Nursing Sister	500
1 Nursing Sister	480
African Staff	600
Other Charges, add 20 per cent	624
Total	£3,744

As indicated above, the existing African hospital includes a number of beds for Asian patients. The Committee understands that there are two charitable Indian bequests which may be available for expenditure upon the hospital needs of the Asian community at Mombasa. Their full requirements, however, would not be covered by the bequests and it will be necessary for at least 30 additional beds to be provided for the Indian population generally in an Asian ward block which it is suggested should be attached to the new African hospital, administrative, operating and other ancillary buildings to be shared. The estimated cost of the Asian ward block, at the rate of £500 per bed, is £15,000. Increased annually recurrent expenditure at the end of ten years would be:—

2 Asian Nursing Sisters	£480

Mr. Amin is of the opinion that the requirements of the Asian community at Mombasa could be adequately met only by carrying out the combined group hospital scheme which has been discussed over a period of several years and for which the Mombasa Municipal Board has already allocated a suitable site; Mr. Amin is further of the opinion that the combined group hospital scheme should be brought to completion without delay.

Section XII—Comments of the Committee on the Report of the Sub-Committee on

INDUSTRIAL DEVELOPMENT INCLUDING ELECTRIC POWER DEVELOPMENT

140. The Committee is in agreement with the important principles laid down in paragraph 3 of the Sub-committee's report (Appendix 9, Volume II) that the development of industries in Kenya is needed on three grounds—

(*a*) to increase the national income in accordance with paragraph 4 of the Interim Report of the Development Committee;

(*b*) as part of an employment policy; and

(*c*) as a stabilizing factor in the economy of the Colony.

The Sub-committee's report is framed in accordance with the criteria referred to by the Committee in paragraph 9 and in accordance also with the principle that secondary industries should derive from the primary production of the country, and from the import, in suitable cases, of capital and skill from abroad.

141. The Committee is in favour of the establishment of a Government Finance Corporation as proposed in paragraph 4 of the Sub-committee's report and recommends that a capital for this purpose of £50,000 should be provided.

142. Here it is necessary to refer to the special functions to be played by the Finance Corporation in regard to the stabilization of Kenya's economy. Not only could expenditure by this organization be timed with due regard to, and its investment policy be related to, the movements of the trade cycle, but it could be used with valuable sociological and stabilizing effect, to finance certain industrial projects which, in themselves, would not necessarily attract private capital or capital of the kind to be furnished by the Barclay's Overseas Development Corporation. The benefits which would flow from such projects would primarily be returned in the form of employment for an increasing population and the stimulation of purchasing power in times of falling prices. The Corporation would be managed on strict business principles and not as a philanthropic institution.

143. The Sub-committee's recommendations on industrial licensing in paragraph 6 of its report are endorsed by the Committee and we understand that they are incorporated in draft legislation which has been sponsored by the East African Governors' Conference and is at present being considered by the Governments of the East African territories.

144. In regard to the final sub-paragraph of paragraph 6 the Committee considers that the framing of any legislation of an anti-price-ring or anti-cartel nature, which we understand is being considered in the United Kingdom, should await the production of effective legislation of that nature in the United Kingdom. It should, however, be recorded that, under a positive system of industrial licensing, it will be possible to prevent, by a strict supervision of the terms under which industrial licences may be transferred, any considerable measure of elimination of competition through the buying up of small businesses by large ones.

145. In regard to paragraph 7 of the Sub-committee's report, it is stressed that the timing of expenditure by private enterprise is of an importance equal to or even greater than the timing of governmental expenditure as a counteracting force to the downward phase of the trade cycle. Here it would appear that the advantages accruing to business from the timing of large-scale capital expenditure during the downward, rather than the upward, phase of the trade cycle should be explained to business firms. Capital expenditure, and indeed much physical depreciation expenditure, can be timed for the downward phase. It is already the policy of many big firms to make such expenditures in periods of falling prices. The principle is a simple one, its application is obvious, and its acceptance should induce many firms who appreciate its significance to put the policy into effect. If this principle is understood, accepted, and acted upon, the effect upon the stabilization policy that we consider should be adopted by the Government will be considerable.

146. In regard to paragraph 8 where a statistical service is suggested, the Committee strongly supports the recommendations of the Sub-committee; it also recommends that such a service should be provided on a permanent basis. Attention is also invited to paragraphs 223–225 below.

147. The Committee supports the proposed establishment of a Central Scientific Library (paragraph 9), but as a special section of the Secretariat Library. It recommends the provision of a sum of £750 per annum in the Recurrent Estimates to pay for the services of a librarian for the Secretariat Library and for the purchase of books for this section of the Library and also for the Social Science Section recommended in paragraph 189 below.

148. In regard to the suggestion contained in the same paragraph that a Central Board of Research should be set up, the Committee is advised that the Kenya Government in 1945 informed the Chief Secretary to the Governors' Conference that it was prepared to co-operate in proposals which had been made for the creation of a permanent industrial research organization in East Africa, but that the proposals are in abeyance as full inter-territorial co-operation has not yet been achieved. In these circumstances the Committee recommends the creation of the suggested Central Board of Research, while at the same time stressing that the number of scientists attached to the Board should be in proportion to the practical research requirements of industry, and not in excess thereof. For the time being the Committee recommends that the estimates prepared for the regional proposal should be adopted as a basis for the Kenya scheme. As regards the final sub-paragraph of paragraph 9, the Committee considers that the principle to be applied in regard to payment for services rendered by the Central Board of Research should be that, if confidential information is required, a fee should be charged, but not otherwise.

149. In regard to paragraph 10 with which it is in agreement, the Committee is strongly of the opinion that every endeavour should be made in the fiscal policy of the Colony to make generous allowances for depreciation so as to provide the maximum practicable encouragement to industrial and agricultural enterprise.

150. The Committee agrees with the views of the Sub-committee regarding royalties expressed in paragraph 11 of its report.

151. In regard to the provision of electrical power facilities, the Committee is of the opinion that the report of the expert investigators, which is at present in course of preparation, must be awaited before specific recommendations can be made, but that in the meantime the possibility of Barclay's Overseas Development Corporation lending money for suitable enterprises should be examined. The Committee recommends that the Government should impress upon the East African Power and Light Company the desirability of its extending its facilities to areas of potential development, which may at first be less remunerative than established areas, in partial consideration for its monopoly in highly remunerative areas.

152. The Committee is in agreement with paragraphs 17 and 18 of the Sub-committee's report.

153. In regard to paragraph 19 it was noted that the East African Industrial Council had produced a list of products suitable for manufacture in East Africa. In this connexion, the Committee wishes to record its view that a valuable opportunity has been lost during the war by some local manufacturers, through their policy of quick profits on the production of inferior articles, when they might have captured permanent markets by the sale of good-quality products in the absence of competition from high-quality imported goods.

154. In paragraph 21 of the Sub-committee's report it is suggested that an Industrial Board should be set up. We are of the opinion that the same purpose can be better achieved, and overlapping prevented, by the reorganization of the Trade Advisory Committee as an Economic and Industrial Advisory Board, with a new and expanded membership both on the official and unofficial side. We recommend accordingly.

155. The Committee attaches very great importance to the views expressed in paragraph 22 of the Sub-committee's report. It would like to stress the immediate urgency of the proposal for a large-scale propaganda campaign the object of which would be to explain to the African the need in his own interests for an increased output of work. It also supports the proposal for scientific research into the problem of finding suitable incentives for the African to advance himself, and earnestly commends both to the consideration of the Government.

156. As regards paragraph 23, the Committee is in favour of the proposal for a Technical and Commercial Institute, which it considers should provide facilities for all races, to supply the skill and technological outlook so lacking in the majority of the population of the Colony, irrespective of race. To carry out the early stages of the scheme outlined in the appendix to the Sub-committee's report a recurrent subvention by the Government of £1,125 per annum is involved together with a share (say £150) of the cost of laboratory equipment and text books, and we are informed that when a special building for the Institute is required capital expenditure of the order of £50,000 would probably be needed and recurrent expenditure of some £5,000. The Committee is also in favour of legislation (*see* the second subparagraph of paragraph 23 of the Sub-committee's report) making it compulsory for employers to permit employees to attend classes during working hours.

157. With reference to paragraph 24 of the Sub-committee's Report, the Committee is unable to share the Sub-committee's view that factory inspection, and other industrial inspection services, should not come under the aegis of the Labour Department. A post of Boiler Inspector was added to the establishment of the Department in this year's Estimates and the Committee recommends that a Factory Inspector, with a staff adequate to cover factory as well as boiler inspections, be appointed. So far as electrical inspections are concerned, the Committee considers that they should continue to be carried out by the officer who administers the Electric Power Ordinance—at present the Postmaster General. The Committee fully appreciates the importance of ensuring that inspection services command the full confidence not only of the employee but also of the employer, if any permanent and economic advance in labour conditions is to be achieved. For this reason the Committee recommends that the Labour Advisory Board, whose membership includes representatives of employers, should afford the same guidance to the Labour Department as regards inspection policy as it does regarding labour matters generally.

SUMMARY OF RECOMMENDATIONS

Paragraph 140.—Conclusions in Sub-committee's report supported.

Paragraph 141.—Government Finance Corporation recommended. Capital of £50,000 should be provided.

Paragraph 143.—System of industrial licensing recommended.

Paragraph 146.—Statistical service on a permanent basis recommended.

Paragraphs 147 *and* 148.—Establishment of Central Scientific Section of Secretariat Library recommended; also Central Board of Research on East African basis.

Paragraph 149.—Endorses recommendations in paragraph 10 of Sub-committee's report and recommends generous allowance for depreciation as part of Colony's fiscal policy.

Paragraph 151.—The Government should impress upon the East African Power and Light Company the desirability of an extension of facilities to areas of potential development.

Paragraph 154.—Trade Advisory Committee should be reorganized as an Economic and Industrial Advisory Board.

Paragraph 155.—Propaganda campaign should be undertaken to explain to the African peoples the need for increased output of work; and scientific research should be conducted into problem of finding incentive for African to advance himself.

Paragraph 156.—A Technical and Commercial Institute should be established and legislation enacted to make it compulsory for employers to permit employees to attend classes during working hours.

Paragraph 157.—A Factory Inspectorate should be set up, the organization to be under the aegis of the Labour Department (except for electrical inspections), but to receive guidance as regards policy from the Labour Advisory Board.

SECTION XII—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended 1	Kenya Development and Reconstruction Fund 2	Loans for self-reimbursing expenditure 3	Kenya Colony Estimates		Remarks 6
			Estimated gross increased recurrent expenditure at end of 10 years 4	Estimated increased annual revenue at end of 10 years 5	
	£	£	£	£	
SECTION XII—INDUSTRIAL DEVELOPMENT					
Capital for Government Finance Corporation	50,000	—	—	1,500	
Central Scientific and Social Science Sections of Secretariat Library	—	—	1,000	—	
Central Board of Research	Table B.	—	—	—	See Table B.
Technical and Commercial Institute : Initial Stage	150	—	—	—	
Second Stage	50,000	—	5,000	—	
Totals .. £	100,150	—	6,000	1,500	

B.—KENYA SCHEMES FOR RESEARCH, THE COST OF WHICH IT IS HOPED WILL BE BORNE, WHOLLY OR IN PART, AS A CHARGE AGAINST THE COLONIAL DEVELOPMENT AND WELFARE VOTE CENTRAL ALLOCATION

Proposals Recommended	Total Capital Expenditure proposed	C.D. and W.V. Central Allocation		Kenya Colony Estimates—Estimated gross increased recurrent expenditure at end of 10 years	Remarks
		Capital	Recurrent		
	£	£	£	£	
SECTION XII—INDUSTRIAL DEVELOPMENT					
Industrial Research—Central Board of Research	—	—	150,000	30,000	
Totals .. £	—	—	150,000	30,000	

In August, 1945, proposals were submitted to the E.A. Governments for the creation of an East African Department of Industrial Research and Development, involving estimated expenditure of £30,000 per annum, which would cover both capital and recurrent costs of the Department, which it was contemplated would be borne as to £15,000 by the Colonial Development and Welfare Vote Regional (E.A.) allocation as to £7,000 by Kenya, and as to £4,000 each by Tanganyika and Uganda. A decision on the matter has been deferred mainly because Kenya and Uganda stipulated that their agreement to the scheme was dependent upon the participation of all three Governments and since Tanganyika was not prepared to enter into any commitment at that time. It is suggested that Kenya should act unilaterally, if necessary, on the basis of the scheme drawn up for the E.A. Territories. What annually recurrent costs and capital expenditure would be involved if Kenya acts unilaterally are not at present known, but it may be presumed that the totals would be less than those shewn in this table for the inter-territorial scheme.

Section XIII—Comments of the Committee on the Report of the Sub-Committee on

WATER DEVELOPMENT

158. The proper development of the water resources of the Colony was referred to by the Committee in paragraph 28 as being of the first priority, and the Committee is in full agreement with the Sub-committee as regards the fundamental importance of taking measures to ensure that such resources are fully developed and utilized. The Committee endorses the various recommendations contained in the report of the Sub-committee (*see* Appendix 10, Volume II), with the exception referred to in the following paragraph and in paragraph 169.

159. The Committee gave much thought to the question of the best type of organization that could be charged with the task of ensuring the full development and utilization of the Colony's water resources. It had the advantage of discussions on the subject with the Member for Agriculture, Animal Husbandry and Natural Resources and with the Member for Health and Local Government, and came to the conclusion that a separate Water Department, as suggested in the Sub-committee's report in paragraphs 23 to 28, is not necessary, but that in the first instance, at any rate, a Water Division of the Public Works Department under a technical head should operate under the aegis of the Member for Agriculture, who would be advised by a Water Resources Board. The technical officer in charge of the Water Division would be a member of the Water Resources Board and the staff in the Division would be fully at the disposal of the Member for Agriculture.

It is obvious that the details of this proposal need to be carefully worked out, and the terms of reference of the proposed Water Resources Board would require to be formulated with due regard to the present functions (which would require amendment) of the existing Water Board and the Land and Water Conservation Committee. The Committee recommends that this matter should receive urgent attention, since it considers that the establishment of a Water Resources Board and of Catchment Area Water Boards on the lines contemplated by the Member for Agriculture would serve a purpose of fundamental importance. The effective development of water resources is a matter vital to the economic development of the Colony and the Committee is convinced that there must be—

(*a*) a policy-making body,

(*b*) a definite executive,

(*c*) clear-cut responsibility on the part of the executive to the Member responsible for the development of natural resources.

160. In regard to the individual projects recommended by the Sub-committee in its report, the Committee has further reviewed the respective estimates in order that the various schemes may be extended, where necessary.

to cover the full period of the present Colonial Development and Welfare Act, viz. 1946–1956. The revised totals, including expenditure incurred up to the 31st of December, 1945, viz. £4,640, are as follows:—

Schedule 1—Hydrographic Survey and Staff ... ... (same as Sub-committee's revised estimate)	£61,640
Schedule 2—Treatment of Stream Pollution ... ... (same as Sub-committee's revised estimate)	£7,000
Schedule 3—Piping, etc., of small tapering streams ... (same as Sub-committee's revised estimate)	£200,000
Schedule 4—Boring in alienated areas	£25,000
Schedule 5—Boring and well-sinking in native areas ...	£150,000
Schedule 6—Dams, excavated tanks and development of rock catchments	£100,000
Schedule 7—The Uaso Nyiro Drainage Area	£29,400
Schedule 8—Artesian Basin, Aberdare–Mt. Kenya ...	Nil
Schedule 9—Upper Tana River—Survey for Irrigation Scheme	£8,954
Schedule 10—Water Supplies in Northern Frontier District, Samburu and Turkana	£483,700

In addition, the following provision will be required to enable two Colonial Development Fund schemes (on which expenditure amounting to £33,045 had been incurred up to the 31st of December, 1945) and one recently approved Colonial Development and Welfare Vote project to be completed:—

Improvement and Investigation of Water Supplies in Native Areas	£12,459
Water Supplies and Cattle Dips on Stock Routes ...	£3,496
Water Supply, Uaso Kedong	£3,000

161. The Committee considers that it should invite attention to the following points regarding the above-mentioned projects:—

(*a*) The Committee would stress the vital importance of proceeding with a complete hydrographic survey of the Colony's water possibilities without delay. Before the machinery described above to execute the plans for improving the water resources of Kenya can be fully effective, such a survey must be carried out. The Committee recommends accordingly, stressing, however, that all possible known resources should be developed as fully as may be practicable without waiting for the results of such a survey. Until the survey is completed it is not possible to make firm estimates of the costs involved.

(*b*) The sum suggested for the piping of small tapering streams cannot be regarded as a firm figure in the absence of the necessary investigations, but it should suffice for several years. In the event of the amount proving inadequate, the question of the provision of additional funds can be considered in the light of the Colony's financial situation at the time.

(*c*) The provision of £150,000 suggested for boring and well-sinking in native areas must be regarded as inadequate in view of the figure of £420,000 mentioned in the Sub-committee's report. The Committee regrets, however, that it cannot recommend additional provision at this stage, in view of the paucity of funds available for development, and suggests that a comprehensive programme should be carried out as expeditiously as plant and staff permit, and that in the event of the funds (£150,000) being used up within five or six years, the question of the provision of additional funds should be then considered. The Committee invites attention to the possibility of making funds available for this purpose from the funds provided for the reconditioning of native areas and native settlement, since reconditioning and settlement would in many cases involve the provision of water supplies by boring and well-sinking.

(*d*) The sum of £100,000 suggested for dams, excavated tanks and development of rock catchments is also likely to prove inadequate, and the suggestions made under (*b*) above apply here also.

(*e*) The sum of £29,400 is primarily for investigations and any funds required for major construction works, such as, for example, the dam referred to in paragraph 32 of the Sub-committee's report, will be additional. The Committee recommends that consideration be given in due course to the question of providing a reasonable sum for such works from the unallocated amount shown in Section XVI of this report.

(*f*) The Committee would like to invite attention to the fact that the amount estimated for the Tana River survey is for a reconnaissance survey only and that, if the results indicate that an irrigation scheme is practicable, additional funds will be required for a detailed survey, and in due course, if the detailed survey gives promising results, for the irrigation scheme itself. Heavy expenditure would be required for such a project, but no specific provision for this is included in the Committee's proposed allocations. In this connexion we would invite attention to the remarks in paragraph 63 of the Agricultural and Veterinary Services Joint Sub-committee report in regard to the necessity of carrying out experiments in irrigation farming.

(*g*) The Committee has given careful consideration to the question whether, having regard to the basic criteria mentioned in paragraph 9, it can support the recommendation of the Sub-committee that Dr. Dixey's scheme for the provision of water supplies in the Northern Frontier District, Samburu and Turkana should be carried out in full over a ten-year period and has, reluctantly, come to the conclusion, for the same reasons that influenced the Sub-committee, that it must endorse the recommendation.

162. The funds required from the 1st of January, 1946, for the completion of the projects mentioned in paragraph 160 above, on the basis there shown, total, with the exception of the scheme for the Northern Frontier District, Samburu and Turkana, £596,309, and the Committee recommends the provision of a round sum of £540,000 for these projects in such parts of the Colony as are not covered by Dr. Dixey's scheme. It is hoped that £58,436 out of the sum of £596,309 will be provided for hydrographic surveys from the Colonial Development and Welfare Vote Central Allocation —*see* note (*a*) appended to the financial summary at the end of this section. It also recommends the provision of a round sum of £485,000 for Dr. Dixey's scheme for the Northern Frontier District, Samburu and Turkana.

163. As regards water supplies in townships, the Committee is advised that, apart from Nairobi, Mombasa, Nakuru, Kisumu and Eldoret, a sum of some £150,000 may be required for the development of adequate supplies, and provision has been made accordingly. It is impossible to obtain firm estimates for such supplies at present, since in some cases the local authorities have not yet submitted any statements of their requirements and in consequence the necessary surveys and investigations have not yet been made.

164. Nairobi and Mombasa require special consideration. The Nairobi water supply is in urgent need of augmentation and we have been informed that capital expenditure of the order of £750,000 will perhaps be necessary, though no close estimate can be given until the necessary surveys have been completed. As the Nairobi Municipal Council is the Water Authority, this expenditure would take the form of a direct loan by the Government to the Municipal Council, which would be responsible for reimbursing to the Government interest and redemption charges. It would, therefore, fall into the category described in paragraph 14 of this report.

165. As regards Mombasa, we are informed that capital expenditure amounting possibly to £250,000 will be required during the next ten years to provide for extensions to the present supply which, in the opinion of the Hydraulic Engineer, Public Works Department, will shortly become inadequate to meet current demands at peak periods. The Mombasa water supply is in a unique position in that it is operated by the Government and not by the local authority, largely because of the importance of the Port in relation to the Colony as a whole. The Government, however, makes an *ex gratia* payment to the Mombasa Municipal Board of two-thirds the net annual profits of the supply.

This arrangement can hardly be regarded as satisfactory either from the standpoint of the Government or of the Municipal Board, and we recommend that the Government and the Municipal Board should jointly consider the possibility of putting the water supply on a self-financing basis with power to raise its own funds to meet capital expenditure on expansion. In the meantime, pending the result of this investigation, we make no provision for capital expenditure on this supply.

166. The Committee is advised that capital expenditure of the order of £250,000 may be required for the augmentation of water supplies in Nakuru, Kisumu and Eldoret, and recommends the provision of the necessary loan funds.

167. A statement summarizing the financial implications of the proposals in the preceding paragraphs is given at the end of this Section. It will be observed that provision is included, on a ten years' basis, for the hydraulic staff shown under Item 4, Head 2, of the Development and Reconstruction Authority Estimates for 1946.

168. Paragraph 19 of the Sub-committee's report mentions a suggestion that the Government should lend money to District Councils for the purpose of encouraging and facilitating the provision of water supplies on private land in District Council areas. The Committee agrees with the view of the Sub-committee that the proposal merits examination and is informed that the Commissioner for Local Government is seeking the views of District Councils.

169. In regard to the Tennessee Valley Authority, to which reference is made in paragraph 30 of the Sub-committee's report, and with which parallels are frequently drawn in regard to Kenya, the Committee wishes to express the view that, while such parallels are of interest, their relevance to the conditions obtaining in the Colony can be overstressed. Extracts from an article from *The Economist* are quoted at the end of this Section as being of interest in this connexion.

The Committee gave careful consideration to the recommendation in paragraph 30 of the Sub-committee's report that an officer with direct personal experience of the work carried out by the Tennessee Valley Authority should be appointed for a period of two or three years and should work under the aegis of the Development and Reconstruction Authority, but came to the conclusion that such an appointment would not serve a sufficiently useful purpose at present. The Committee considers that, when necessary, the services of a consultant could be engaged for special investigations or tasks.

170. In concluding its comments on this Sub-committee's report the Committee is glad to be able to report that it has been advised that the staff position in the Hydraulic Section of the Public Works Department has improved since the Sub-committee's report was drafted last year. One of the chief handicaps to progress is the lack of subordinate staff, especially sub-surveyors, and the Committee recommends that the Government should take all possible steps to recruit suitable men.

The title of Assistant Engineer (Hydrology), to which reference is made in paragraph 4 of the Sub-committee's report, has been adopted in this year's Estimates and is now regarded as the correct title.

SUMMARY OF RECOMMENDATIONS

Paragraph 158.—Recommendations of Sub-committee endorsed with two exceptions.

Paragraph 159.—Separate Water Department not considered necessary. Water Division of Public Works Department to operate under aegis of Member for Agriculture, Animal Husbandry and Natural Resources who would be advised by a Water Resources Board.

Paragraph 159.—Establishment of Water Resources Board and of Catchment Area Water Boards should receive urgent attention.

Paragraph 160.—Revised expenditure totals recommended for various projects contained in Sub-committee's report.

Paragraph 160.—Provision required for completion of two Colonial Development Fund schemes and one Colonial Development and Welfare Vote project recently approved.

Paragraph 161 (*a*).—Necessity for complete hydrographic survey stressed, but fullest practicable development of all possible known water resources should not be held up pending completion of hydrographic survey

Paragraph 161 (*e*).—Consideration should be given in due course to provision from the unallocated sum shown in paragraph 231 of this report of a reasonable amount for execution of major construction works proposed in the light of hydrographic investigations in the Uaso Nyiro drainage area.

Paragraph 161 (*g*).—Dr. Dixey's scheme for water supplies in Northern Frontier District, Samburu and Turkana should be executed over a ten-year period.

Paragraph 162.—Round sum of £485,000 for Dr. Dixey's scheme and round sum of £540,000 for water supply projects in such parts of Colony as are not covered by Dr. Dixey's scheme, should be provided.

Paragraph 163.—£150,000 required for water supplies in townships other than Nairobi, Mombasa, Kisumu, Nakuru and Eldoret.

Paragraphs 164 *and* 166.—Direct loan of the order of £750,000 should be made by Government to Nairobi Municipal Council for augmentation of Nairobi water supply and loan funds of the order of £250,000 should be made available for augmentation of Municipal water supplies at Nakuru, Kisumu and Eldoret.

Paragraph 165.—Government and Mombasa Municipal Board should jointly consider possibility of putting Mombasa water supply on a self-financing basis with power to raise its own funds to meet capital expenditure on expansion.

Paragraph 170.—All possible steps should be taken to recruit subordinate staff, especially sub-surveyors.

SECTION XIII—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended 1	Kenya Development and Reconstruction Fund 2	Loans for self-reimbursing expenditure 3	Kenya Colony Estimates: Estimated gross increased recurrent expenditure at end of 10 years 4	Kenya Colony Estimates: Estimated increased annual revenue at end of 10 years 5	Remarks 6
SECTION XIII—WATER DEVELOPMENT	£	£	£	£	
Schemes in areas of Colony not covered by Dr. Dixey's Scheme ..	540,000	—	—	—	See note (a) below
Northern Frontier District, Samburu and Turkana (Dr .Dixey's Scheme)	485,000	—	—	—	
Hydrographic Survey and Hydrographic Staff	Table B.	—	—	—	See Table B.
Water Supplies in Townships (excluding Nairobi, Mombasa, Kisumu, Eldoret and Nakuru	150,000	—	50,000	50,000	
Hydraulic Staff, Development and Reconstruction Authority (see Head 2, item 6 of D.A.R.A. Estimates, 1946)—say £4,500 p.a. for 10 years	45,000	—	—	—	
Municipal Authorities—Nairobi, Kisumu, Eldoret and Nakuru: Loans for water supplies	—	1,000,000	—	—	
Totals ..£	1,220,000	1,000,000	50,000	50,000	

B.—KENYA SCHEMES FOR RESEARCH, THE COST OF WHICH IT IS HOPED WILL BE BORNE, WHOLLY OR IN PART, AS A CHARGE AGAINST THE COLONIAL DEVELOPMENT AND WELFARE VOTE CENTRAL ALLOCATION

Proposals Recommended	Total Capital Expenditure proposed	C.D. and W.V. Central Allocation: Capital	C.D. and W.V. Central Allocation: Recurrent proposed	Kenya Colony Estimates—Estimated gross increased recurrent expenditure at end of 10 years	Remarks
SECTION XIII—WATER DEVELOPMENT	£	£	£	£	
Hydrographic Survey (C.D.and W.V. Scheme No. R. 24	20,654	20,654	—	—	Revision of scheme, excluding expenditure up to 31.12.45. (See note (a) below.)
Hydrographic Survey—Staff (C.D.and W.V. Scheme R.24A) ..	37,782	37,782	—	—	Revision of scheme, excluding expenditure up to 31.12.45. (See note (a) below.)
Totals ..£	58,436	58,436	—	—	

NOTE (*a*).—COLONIAL DEVELOPMENT AND WELFARE VOTE SCHEMES WHICH HAVE BEEN APPROVED IN PRINCIPLE

Schedule of Sub-committee's Report or paragraph of Committee's Report		Details of Scheme (Numbers in parentheses indicate C.D. and W.V. Serial Number)	Amount approved from Colonial Development and Welfare Vote		Revised estimate of total cost of scheem (including expenditure to 31st Dec., 1945)	Expenditure to 31st December, 1945	Amount chargeable against Colonial Development and Welfare Vote Central Allocation	Amount chargeable against Development and Reconstruction Fund (including Colony's block allocation of £3,500,000)	Amount of expenditure for first quarter of 1946 chargeable against the C.D. and W.V. under the first Act, but not against block allocation of £3,500,000 under second C.D. and W.V. Act.
			Free Grant	Loan					
			£	£	£	£	£	£	£
Schedule	1	Hydrographic Survey and Staff (R.24, R.24A)	45,000	—	61,640	3,204	58,436	—	1,295
,,	2	Treatment of Stream Pollution (D.300 B)	5,000	—	7,000	38	Nil	511,362	1,700
,,	3	Piping, etc., of Small Tapering Streams (D.300 C)	—	95,000	200,000				
,,	4	Boring in Alienated Areas (D.300 D) ..	7,500	—	25,000				
,,	5	Boring and Well-sinking in Native Areas (D.300 E)	34,000	—	150,000				
,,	6	Dams, Excavated Tanks and Development of Rock Catchments (D.300 F) ..	—	25,000	100,000				
,,	7	Uaso Nyiro Drainage Area (D.300 G) ..	21,000	—	29,400				
,,	8	Artesian Basin, Aberdares–Mount Kenya (D.300 H)	5,000	—	Nil				
,,	9	Upper Tana River—Survey for Irrigation Scheme (D.269)	6,000	—	8,954	1,398	Nil	7,556	535
Para.	000	Improvement and Investigation of Water Supplies in Native Areas (439).. ..	42,000	—	42,000	29,541	Nil	12,459	12
,,	000	Water Supplies and Cattle Dips on Stock Routes (479)	7,000	—	7,000	3,504	Nil	3,496	Nil
,,	000	Water Supply, Uaso Kedong (D.521) ..	3,000	—	3,000	Nil	Nil	3,000	Nil
		TOTALS .. .. £	175,500	120,000	633,994	37,685	58,436	537,873	3,542
							Say £	540,000	

EXTRACT FROM *The Economist*, VOL. CXLVII, NO. 5285, OF 9TH DECEMBER, 1944, PAGES 766, 767

(*See* paragraph 169 of Section XIII)

An International TVA?

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Not all of the TVA's progress has meant plain sailing. From the authority's inception it has faced considerable opposition and criticism. The climate of opinion in the U.S. is not normally favourable to the extension of public enterprise, and sectional interests have been able to limit the actual and potential range and scale of the TVA's activity. Some lines of development have been blocked at the source; some have been made ineffective by statutory limitations; others have not even been attempted.

These imperfections are best regarded as growing pains. The TVA has already won wide recognition as a pioneer of wholesale regional development and new "TVAs" will profit by its experience. It is not surprising that its success has encouraged many people to believe in the TVA as a blue-print for universal adoption. In recent years—and increasingly so in recent months—the conception of an international TVA has gained popular approval. "A plan of resources development has solved the economic and social problems of a great American valley"—so runs the argument—"Why then, should it not solve the problems of the depressed peoples of the Danube, the Yangtse . . . ." This argument is obviously attractive and warrants the most careful scrutiny.

The TVA has undertaken an intensive development plan in a country already developed extensively. That is, its scheme builds and draws on the resources of a country already highly industrialized—a country where skill and enterprise, commerce and finance have advanced far beyond the primitive levels reached in most areas of the world awaiting development. To be successful, any TVA launched upon such regions as the Yangtse or Danube valleys would have to be preceded or accompanied by industrial revolution. While mass production methods reduce the necessity for highly skilled operatives in many industries they impose definite limitations on the quantity of really unskilled labour that can profitably be employed. It is not enough to put tools into the hands of the poor. They must be taught how to use them. Industrialization and resource development are very slow processes when the operative labour force starts from scratch in technical education and experience. Without parallel developments in the regions forming its hinterland or sphere of influence an international authority would almost certainly find itself hamstrung by an inefficient labour force and by lack of machinery. The main effort of TVA is the generation of electricity. But electricity by itself, without the machines to be driven by it, is of little use.

Marked differences in standards of economic development and prosperity between the regions of a single geographic or political entity are traditional causes of friction and unrest. The Tennessee Valley scheme—like the less ambitious "Special Areas" development schemes tried in Britain before the war—is an attempt to remove inferiority by levelling-up to a common standard. A TVA for the Danube might well have the opposite effect. The more remote regions (remote either physically or commercially) might find themselves relatively worse off if they were unable, for any reason, to utilize the benefits conferred by the development authority while more favourably placed regions were able to forge ahead. For these reasons a plan commensurable in scope with that of the TVA but applied to an area as backward as the Balkans would prove a much larger and a much more expensive and difficult undertaking.

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Section XIV—Comments of the Committee on the Recommendations Contained in the Report of the Sub-committee on

SOCIAL WELFARE, INFORMATION AND MASS EDUCATION

171. In considering the question of social welfare, the Committee has accepted the conception of social welfare referred to in the Colonial Office pamphlet—"Social Welfare in the Colonies"—dated April, 1945. It may be helpful to quote from certain paragraphs of that pamphlet in order that the more technical and restricted sense in which the term "social welfare" is used in this section of the report may be clearly understood.

> "1. It is one of the difficulties of vocabulary that certain words and phrases are capable of being used and understood both in a general and in a technical sense. In a general sense, 'social welfare' is evidently the aim of any reputable Government and of every department of such a Government. Yet experience in the Colonies, as in other countries, has shown that there remains a group of activities which do not fall within the scope of any of what have been until lately the customary departments of Government, and which demand the services of staff with a special kind of training.
>
> 2. Even in countries at an advanced stage of development it is only comparatively lately that these activities, to which the term 'social welfare' has come to be applied in a technical sense, have begun to be recognized as the proper concern of the State . . . .
>
> . . . .
>
> 6. The function of the State in creating and preserving internal peace, law and order is universally recognized, and this was necessarily the first task of the Colonial Governments. Next came the task of applying to Colonial problems the discoveries of science, with the double object of fulfilling the duty of trusteeship by promoting the well-being of the people, and of developing the material resources of the territories for the mutual benefit of the population and of the external world. Thus the last half-century has seen the establishment and growth throughout the Colonies of medical, agricultural, veterinary and forestry departments, geological surveys and meteorological services, along with the setting up of research centres and the conducting of specific investigations. In short, the organization of the natural sciences in their application to the needs of the Colonies is being taken in hand.
>
> 7. A parallel development has taken place in the sphere of education. Broadly speaking, this was left to the Churches and to private enterprise until comparatively recent times. It is now recognized that the Colonial Government, as the organ of the community, has an ultimate responsibility for education at all levels. The establishment of public elementary and secondary education, though not yet available for more than a small proportion of children in the Colonies, is now being reinforced by programmes for mass or adult education and for the development of facilities for University education.

8. Departmental machinery has already been created in the Colonies to deal with the subjects enumerated in the two preceding paragraphs. While these subjects all have more or less direct relation to the welfare of the society, they are outside the scope of 'social welfare' as the term is employed in this memorandum.

9. The function of the 'social welfare' worker may be described as three-fold:—

(1) To assume direct responsibility for certain types of service which are not covered by the existing professional departments and to encourage and help in their development.

(2) To assist the administration and the specialist departments in those aspects of their work which have a particular bearing on the welfare of the people, so that the latter may be attracted and persuaded to take full advantage of the facilities offered, and that the former may have available advice to assist them in adapting their services to the particular needs of a particular area or social unit.

(3) To encourage and to integrate with the general programme the work of Churches and voluntary bodies in these and similar fields; in particular, to develop the social welfare activities of Native Administration and of native organizations and societies, to encourage the development of voluntary organizations which provide scope for the activities, as full members. of indigenous persons, both men and women, and to promote their training in leadership."

172 The Committee realizes that in a general sense "social welfare" could be regarded as being largely synonymous with the term welfare of society, but it does not propose to attach the wider meaning to the term in this section of its report. It invites attention to the other sections of the report in which are set out the recommendations regarding social and economic development in various forms, and welfare generally, and proposes to deal in this section with certain types of activity which are not covered by the existing departments, and which demand the services of staff with a special training in social science.

Before doing so, however, the Committee wishes to associate itself with the remarks made in Your Excellency's message to the Legislative Council at the beginning of the Budget session last year: "Social services, hospitals, clinics, welfare workers and many other things of that kind are a consequence and not a cause of primary production, and if we cannot produce the wealth we cannot have its consequences."

173. Turning to the summary of the recommendations made by the Sub-committee on Social Welfare, Information and Mass Education, *vide* Appendix 11, Volume II, the Committee regards the ultimate objective stated in the first section as the aim of every good Government and considers the statement of intermediate objectives set out in that section as related, in certain places, more closely to the wider meaning of social welfare than to the more technical sense in which the term is used. The same remark applies to Section II. Welfare Services.

174. Before commenting on Section III, Establishment of a Government Welfare Organization, the Committee considers it desirable to quote two more paragraphs of the Colonial Office pamphlet—"Social Welfare in the Colonies": —

> *"The Machinery of 'Social Welfare'"*
>
> 13. There can be no stereotyped pattern for the organization of social welfare work in the Colonies. As the social and political structure varies according to an immense variety of local circumstances, so must the organization be planned so as to fit into that structure. Many Colonial Governments have already felt the necessity of incorporating in the central headquarters of the administration an officer entrusted with the task of advising the Government on social welfare matters and of exercising a general supervision over social welfare work in the Colony, whether that work is done by existing departments, by specialist officials or by unofficial agencies co-operating with the Government. In some cases it has been decided to recruit specially for such a post an experienced person from outside the Colonial Service, in the capacity of 'Social Welfare Adviser.' In other cases an officer of the existing administrative staff with a knowledge of the people and an aptitude for this kind of work, has been appointed 'Secretary for the Social Welfare' in the Secretariat. The choice between these alternatives or other suitable devices depends upon the local conditions and the availability of qualified persons.
>
> 14. A broad distinction may be drawn between those Colonies which are organized on the basis of provincial and district administration and those which are not. In the former, there is already present in the provincial and district administrative staff a body of officers who are in intimate contact with the people and are responsible for their welfare, and whose duty it is to co-ordinate the activities of specialist departmental staffs within the province or district. In these conditions the best lines of approach may be to provide the administrative officers themselves with opportunities of training in the principles of social welfare work and to supply them with skilled assistants and advisers who can give them technical help in discharging this part of their responsibilities. In those Colonies, on the other hand, where a district administration does not exist, social welfare officers may be attached in an advisory capacity to municipalities or other local government authorities, or they may be attached to existing Government Departments, or even appointed to exercise executive or administrative functions for particular purposes in a particular locality."

175. The paragraphs quoted above contain the suggestion that, since the provincial and district administrative staff consists of a body of officers who are in intimate contact with the people and are responsible for their welfare, and whose duty it is to co-ordinate the activities of specialist departmental staffs within the province or district, the best plan may be to supply them with skilled assistants who can give them technical help in discharging that part of their responsibilities that deals with social welfare. The Committee

agrees with this suggestion, and is glad to learn that the Kenya Government has formulated on this basis the plans which it has so far made for social welfare activities. The Committee understands that the Government does not intend at present to set up a separate Social Welfare Department, but to fit social welfare activities into the present Government organization. The Committee is informed that the following arrangements have been made.

(1) Dr. C. R. Philip, O.B.E., has been seconded from the Medical Department for work as Social Welfare Adviser. His duty is to advise the Government on all aspects of social welfare in respect of all communities. So far as African social welfare is concerned, he forms one of the team of experts working under the Chief Native Commissioner. So far as the social welfare of other races is concerned, he works under the general control of the Chief Secretary (at present the Deputy Chief Secretary), who would work in close collaboration with the Member for Health and Local Government.

(2) Dr. Philip has two trained assistants, Mr. F. E. V. Ross and Mrs. C. G. Kenny. The former is running a course for African social welfare workers—most of whom are ex-soldiers—at the Jeanes School. This course is part of the reabsorption scheme for ex-servicemen, who are expected to bring their wives to the Training Centre, where they will receive special training in social welfare work amongst women. Each course, which will last some nine months, is expected to train 40 Africans for social welfare work in native areas.

(3) The following notes by Dr. Philip indicate what the functions of African Social Welfare Workers will be and what he means by Information Rooms:—

> "(*a*) *Training and Functions of African Welfare Workers.*—It is accepted that there is great need for propaganda of the right kind (adult education) amongst Africans in the native areas, amongst civilians as well as askari, amongst women as well as men, to help carry out the Welfare and Development Plans; there is equally great need for guidance in instituting youth movements, scouts, guides, etc., help is required to start mothers' unions so that domestic management, including diet, cooking, sanitation and home planning, may be improved; the promotion of community life, so disrupted in many of the native areas where wholesome recreational facilities no longer exist, is surely essential, while it is fully recognized that social welfare is a community effort and must be developed within the community' and 'not imposed from outside' and that 'a self conscious and self-respecting community will have the will to find the way to have the social services which it wants.' Of necessity to begin with, leadership is required. This leadership, it is considered, will have to be provided and, in the selection and training of ex-askari N.C.O's., who are men of standing amongst their people, and in the training of their wives, it is hoped to supply individuals capable of being such leaders. These African Social Welfare Workers will work in conjunction with the local Traditional Councils, inspire them and give advice when requested. It is planned that 40 of these leaders, African Welfare

Workers, will be ready to take the field at selected centres in the native reserves in 1947. The men will have to be paid because their Social Welfare activities will be full-time jobs. The wives, it is hoped, will help their husbands in part-time voluntary work amongst the women and children of the community. It has yet to be finally decided who will provide the salaries, but it has been suggested that it be a separate charge on the local authority.

(*b*) *Information Rooms.*—It has been considered necessary to provide at each of the selected centres some kind of building, just the bare minimum, for the display of posters, pictures, charts, newspapers, etc., to house a small library, to be a place where film strip talks can be given, where meetings of discussion groups, youth movements, etc., can be held, a place to provide facilities for listening to wireless programmes and where cinema shows, concerts, plays, indoor games, etc., can take place. The proposed building will in most cases have to be of temporary materials. It will be about 48 ft. by 20 ft., including an out-door stage at one end. Thirty-seven of these information rooms-cum-social halls would be required at the end of 1946, and one for Wangige, adjacent to the Jeanes School, is needed right away, so that it can be used in the practical training of the Welfare Workers at the Jeanes School. With regard to the two Welfare Centres, one at Othaya, S. Nyeri, and one at Kapkatet in Kericho, which had been planned in the districts concerned prior to the above proposals, they are in the nature of being experiments and will probably include other buildings besides Information Rooms and will be built in permanent materials.

(*c*) *Siting of Information Rooms.*—It is proposed that all these Information Rooms be sited in the vicinity of African markets and trading centres, which are usually near the local administrative centre, either divisional or locational.

(*d*) *Accommodation of African Welfare Workers.*—It is unlikely that any of the African Welfare Workers will have their own homes in close proximity to the community centre. It is proposed that suitable housing be provided. In most cases they would have to be built of temporary materials. Housing would have to be ready by the end of 1946.

(*e*) *Cost of Buildings—Information Rooms and Quarters.*—It is proposed that the cost of an information room and welfare worker's house together should be no more than £300, and the question of self-help is considered when it is considered that half of that sum be found by the local authority—the Local Native Councils.

(*f*) *Self-help.*—It is realized that 'Social Welfare' to succeed necessitates its being developed within the community and not imposed from outside. Apart from the beginnings outlined above to form a basic plan of information rooms to stimulate the community spirit, it is not the intention in these tentative proposals that further expansion of these particular centres be spoon-fed by Government. The communities themselves, by *self-help*, must strive to find the ways and means to provide the social services for which in time they will feel the need. They would, of course, probably obtain assistance in certain of their proposed schemes from their own Local Native Councils and in very deserving cases Government would also contribute."

(4) Mrs. Kenny is at present employed part-time on "case-work" among Europeans and Asians, while gaining experience in social welfare work among Africans at Nairobi. Later, she will be engaged in assisting to train African welfare workers at Jeanes School and in undertaking welfare work among African women at a community centre which is being established at Wangige, in the Kiambu area.

(5) In accordance with the principle set out in paragraph 14 of the Colonial Office pamphlet quoted above, it is proposed to run a short training course for Administrative Officers at the Jeanes School towards the end of this year.

(6) Social Welfare in non-native areas is at present engaging the attention of District Councils and is the subject of discussion between several of them and the Government.

(7) As regards social welfare in native areas, the following note by the Chief Native Commissioner explains the Government's proposals:—

> "For the reason that it is necessary to feel one's way in what is a new branch of the Administration, it is proposed, in the first instance, to concentrate such activities in certain districts. The two districts selected are Kiambu and Machakos. In the former a centre is being established at Wangige, which will afford a practical training ground for the students now taking the social welfare course at the Jeanes School.
>
> Kiambu district is regarded as a most suitable area in which to make this start, as the people are receptive for such work. It is regarded as essential to link up social welfare work with the Administration, and to this end it is proposed to build Information Rooms at each of the four Divisional Administrative Centres, which will then form the foci of welfare work in the district and provide centres on which to base the movement towards literacy within the district. It is hoped that success in this district will set the pace and lead to development of a similar nature throughout the Kikuyu lands.
>
> Similar action is proposed at four divisional centres in the Machakos district, where there are urgent and vital problems confronting Government and where the need to get across the message of better land utilization is perhaps one of the greatest problems confronting the Colony. A preliminary propaganda drive is at present under way in this dictrict and it is necessary that this be followed up by the provision of Information Rooms, which will, as in the Kiambu district, form the nuclei of community centres. The proximity of both Machakos and Kiambu to Nairobi will permit of close supervision of these activities during the earlier stages.

Although in the first instance the main concentration will be in the Kiambu and Machakos districts, it is not possible to overlook the need for similar work in other areas, particularly the Nyanza Province, where the presence of large numbers of demobilized soldiers makes it essential to take early steps to foster the community outlook with a view to the peaceful reabsorption of these men into the life of the tribe. Full use should be made of the 'potential reservoir of leadership' present in these men, with their experience and education gained in the war. Their return must be regarded as an opportunity to assist their fellow tribesmen in meeting the stresses and changes of modern conditions and in adopting better ways of living. In order to ensure this being done, it is proposed to make a start by putting up five information rooms in each of the Kavirondo districts (each of which has a population of approximately 400,000) and to start them with ex-N.C.O's. who have already been selected and who are now in training at the Jeanes School. These information rooms will then form the nuclei of community centres from which ultimately adult literacy will spread. Full development of these centres will follow when funds become available. The African section of the British Legion have stated their willingness to co-operate in this matter and expect to be able to provide funds to establish a number of information rooms at community centres. Members of the Legion will have all the facilities at such rooms that are extended to civilians. The ex-Askari N.C.O. Welfare Worker would probably act as Secretary to the local British Legion Sub-committee."

176. It will be observed that the arrangements and proposals referred to above have much in common with the proposals in Section III of the Sub-commitee's summary of recommendations, and, subject to the following comments, the Committee is in general agreement with them.

177. The Committee considers that diffusion of effort over too wide an area in the initial stages of this work may lead to unsatisfactory results and waste of money. It therefore recommends that the majority of the trained workers should be concentrated, as appears to be the Government's intention, during the early experimental years in one or two selected areas where they can be adequately supervised by trained staffs. It also recommends that in each of such areas the chief objectives of social welfare activities in the area should be clearly stated at the outset, clearly understood by all workers, and clearly explained to the people. The Committee attaches great importance to the point made by Dr. Philip in his notes quoted above that "social welfare is a community effort and must be developed within the community." The aim of the work must be to persuade the people to adjust themselves to the social and economic changes pressing in upon them and to play a willing and notable part in shaping their own destinies.

178. It is difficult for the Committee at this stage to make definite recommendations regarding the provision of funds for social welfare activities. The question of dividing responsibility between the local authority concerned (both in the native and non-native areas) and the Government is one that

needs careful examination, but it appears to be inevitable that a considerable amount of expenditure, both recurrent and extraordinary, will fall upon the general revenue of the Colony. The Committee takes the opportunity of observing that the provision of the sums suggested by the Sub-committee, viz. capital expenditure £250,000, recurrent expenditure £650,000, over the next five years is not practicable, when regard is had to the criteria referred to in paragraph 9 of this report and also to the first recommendation in paragraph 177 above that the majority of the trained workers should be concentrated during the experimental years in one or two selected areas where they can be adequately supervised by trained staff. The Committee is informed that the recurrent expenditure involved in the Government arrangements and proposals referred to above would be of the order of £4,000 per annum during the early experimental years up to 1950, and recommends that the necessary provision should be made, if possible, in the ordinary side of the Estimates during that period. Adjustment can be made thereafter in the light of events.

179. In Section XV (8) of this report reference is made to the question of Rural Industries, and it is there recommended that provision should be made within the framework of the Social Welfare Organization for the post of an officer, well versed in rural industries, to supervise and direct the healthy development of such industries. During recent years provision of the order of £5,500 per annum has been made in the Estimates of the Colony. The Committee recommends that expenditure of this order should continue to be provided for in the Colony's Estimates in future years, together with additional provision of some £700 per annum for the salary of the officer referred to above. The Committee is informed that revenue of the order of £3,000 per annum may be expected to accrue.

180. As regards capital expenditure, here, too, estimating is difficult, but the Committee recommends that a block allocation of £35,000 be made in respect of the next five-year period for the following purposes among others. (The question of providing further funds can be considered thereafter in the light of the circumstances existing at that time.)

(*a*) Cost of training additional social welfare workers in the United Kingdom or in South Africa.

(*b*) Contribution by the Government towards the cost of Social Centres, Information Rooms, etc.

(*c*) Cinema vans, wireless sets, film strips, projectors, etc.

181. In Recommendation (6) in Part V of the Summary of Recommendations the Sub-committee stresses the importance of providing mass adult education among all the communities and of inducing adult literacy on a wide scale. The Committee endorses this recommendation; it does not consider it necessary to explain the need for mass adult education at this crucial period in the Colony's history when economic, social and political problems call urgently for solution and when—to quote the words of the Colonial Office pamphlet, "Mass Education in African Society"—"means must be found, and found quickly, whereby the people, as a community, can understand and appreciate the forces which have changed and are changing their

lives so radically." The need for leadership and guidance at such a time is obvious. The first must come largely from the people, the second from the agencies of the Government, the immigrant races, and the Churches; both will depend for their success upon the co-operation of the peoples themselves. The importance of closely co-ordinating social welfare plans and mass education plans so that they form a comprehensive and balanced whole needs no emphasis.

182. The measures outlined in paragraph 175 above form a useful basis for the spread of adult education, but equally if not more important is the education of the young, and in this connexion the Committee would invite attention to the comprehensive and far-reaching proposals which it has made in Section IX of this report for the extension of schooling for children.

183. The Committee is informed that the East African Governments have under consideration a scheme prepared by Mrs. Elspeth Huxley for a widespread development of literature for Africans. At present the demand for literature is large and has not been adequately met, and plans for mass education must be directed towards satisfying this need. The Committee therefore recommends that early steps be taken by the Government to ensure the provision of an adequate supply of suitable reading matter for Africans. The funds required for an inter-territorial project of the type proposed by Mrs. Huxley would no doubt come from the East African regional allocation from the Colonial Development and Welfare Vote.

184. The Committee agrees with Recommendation 7 in Section V of the Summary of Recommendations of the Sub-committee that the Information Office should form an essential part of the social welfare organization; it would concentrate for the most part, as is appropriate, on information services to Africans. The Committee does not propose to express an opinion on the question whether it should be a part of the function of the Information Office to provide staff and equipment, such as cinema vans or wireless sets, for provinces and districts. It has, however, included a reasonable provision for capital expenditure on such equipment under paragraph 180 above. As regards recurrent expenditure, the Committee considers that efficient services can be provided within the amount shown in the 1946 Estimates, viz. £18,067, together with an additional sum of the order of £5,000 per annum for the staff required to operate the additional publicity services provided for under item (*c*) in paragraph 180 above, and recommends that this provision should be transferred from the War Expenditure, Civil, Head of the Estimates next year to an ordinary Head, since in the Committee's view an Information Office will be required during the post-war years.

185. In Part VI of the Summary of Recommendations the Sub-committee recommends the appointment of a permanent, independent, expert Advisory Social and Economic Planning Council, preferably on an East African basis. The Committee does not endorse this recommendation, since it considers that the various aspects of work that would come within the purview of such a Council are already covered, or should, it is suggested, be covered in future

by such committees and boards as the Social Welfare Advisory Committee (the appointment of which is recommended by the Sub-committee in Part III of the Summary of Recommendations), the Economic and Industrial Advisory Board (the appointment of which is recommended in paragraph 154 above), and the Labour Advisory Board.

186. The question of regional planning, which is referred to by the Sub-committee in Part VII of its Summary of Recommendations, is dealt with in Section XV (3) of this report.

187. With regard to recommendation VIII of the Sub-committee's summary of recommendations that a social-economic survey should be instituted, covering as a first step Nairobi and Mombasa, the Committee takes the view that, while investigation into social conditions and economic circumstances in the towns of the Colony will serve a useful purpose, such work should be carried out in the first instance on an experimental basis, taking full advantage of the knowledge possessed by those in close and continuous contact with the populations of the centres mentioned. The Committee, therefore, commends to the attention of the Government a "pilot survey" affecting a "test group" made up of the employees of the Kenya and Uganda Railways and Harbours to be undertaken by independent and qualified observers in the near future. The Committee considers that a valuable result of this inquiry will be, *inter alia*, that definite evidence as to the desirability of large-scale social-economic surveys will then be available.

188. In regard to the cost of social-economic surveys, the Committee is informed that comprehensively conducted on an urban basis, as is proposed in the Sub-committee's report, they are expensive and call for considerable numbers of reliable observers. The Committee, therefore, recommends that the results of the "pilot survey" referred to above be awaited before definite commitments in regard to comprehensive surveys are considered.

189. As regards the proposal made by the Sub-committee in Part X of its summary for a Social Science Library, the Committee recommends that a library of the type referred to should be established as a special section of the Secretariat Library, and recommends that the necessary expenditure be covered by the provision of £750 per annum, as proposed in paragraph 147 of Section XI of this report.

SUMMARY OF RECOMMENDATIONS

Paragraph 171.—Acceptance by Committee of conception of social welfare referred to in Colonial Office pamphlet of April, 1945, on "Social Welfare in the Colonies."

Paragraph 175.—No separate Social Welfare Department should be set up, but specialist welfare staff should be attached to the Provincial Administration, with Social Welfare Adviser working under the general control of the Chief Secretary (Deputy Chief Secretary at present).

Paragraph 176.—Arrangements and proposals referred to in paragraph 175 generally endorsed by Committee.

Paragraph 177.—Majority of trained workers should be concentrated during early experimental years in one or two selected areas, and objectives of social welfare be clearly stated at the outset, clearly understood by all workers, and clearly explained to the people.

Paragraphs 178 *and* 180.—Committee recommends (*a*) financial provision in ordinary side of Estimates for the Government arrangements and proposals referred to in paragraph 175 above; and (*b*) block allocation of £35,000 for capital expenditure on, *inter alia,* training of additional welfare workers, contributions towards cost of social centres, etc., and cinema vans, wireless sets., etc.

Paragraph 179.—Financial provision should be made, within framework of Social Welfare Organization, for a Rural Industries Officer and for continuation of present services.

Paragraph 181.—Recommendation of Sub-committee in regard to importance of providing mass adult education among all communities and of inducing adult literacy on a wide scale endorsed.

Paragraph 183.—Adequate supply of suitable reading matter for Africans should be provided.

Paragraph 184.—Information Office should form an essential part of social welfare organization and recurrent expense should be transferred from War Expenditure to an ordinary head of the Estimates.

Paragraph 185.—Appointment of an Advisory Social and Economic Planning Council not recommended as work which such Council would perform can be carried out by certain existing and proposed committees and boards.

Paragraphs 187 *and* 188.—Social-economic survey should be limited in first place to "pilot survey" of a test group of Kenya and Uganda Railways and Harbours employees, in light of which desirability of large-scale surveys can be determined.

Paragraph 189.—Social Science Library should be established as special section of Secretariat Library.

SECTION XIV—SUMMARY OF FINANCIAL IMPLICATIONS

KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended 1	Kenya Development and Reconstruction Fund 2	Loans for self-reimbursing expenditure 3	Kenya Colony Estimates		Remarks 6
			Estimated gross increased recurrent expenditure at end of 10 years 4	Estimated increased annual revenue at end of 10 years 5	
	£	£	£	£	
SECTION XIV—SOCIAL WELFARE, INFORMATION AND MASS EDUCATION					
Block allocation for capital expenditure	35,000	—	—	—	
Social Welfare Adviser and trained staff	—	—	4,500	—	
Rural Industries	—	—	6,200	3,000	See Section XV (8).
Information Office	—	—	18,000	—	
Additional publicity services	—	—	5,000	—	
Totals ..£	35,000	—	33,700	3,000	

Section XV—Recommendations of the Committee on Matters not Referred to Sub-Committees

(1) BUILDINGS

190. The Committee has noted that various Heads of Departments and Provincial Commissioners have submitted extensive lists of their building requirements to an estimated total considerably in excess of £5,000,000, quite apart from the special requirements of the Agricultural, Veterinary, Forest, Education, Medical, and Posts and Telegraphs Departments to which reference has been made in previous Sections of this report. The committee is well aware that there are heavy arrears of building to be overtaken, but it considers that limited funds only should be made available for this purpose during the next ten years, in view of the criteria mentioned in paragraph 9 above. The risk of sterilizing, in buildings, funds that could be more advantageously employed on development work must be avoided. The Committee therefore recommends that the general building programme should be confined to really urgent and essential works, and that such works should be constructed to a standard that is adequate for the purpose in view in each case, without being too elaborate or too expensive. The Committee is convinced that so much has to be done that there is an ever-present necessity of spreading expenditure on buildings widely and thinly and of adapting the standard of construction to the basic needs and required life of the various buildings. Kenya is a new country and is not rich, and as high a proportion as possible of the funds available should be ploughed back into the field of productive enterprise rather than frozen in fixed assets of a non-productive character. The standards of the pioneers should not be departed from too far in an attempt to produce in Kenya buildings of a type that only much older and much richer countries can afford. Even in the older and richer countries much good work is being done in unpretentious buildings. The Committee considers that, provided the work being done is not unduly handicapped by the building in which it is carried out, new buildings should not be constructed merely because the old buildings are not so comfortable or convenient as they might be. Cases have come to the notice of the Committee which suggest that the estimated cost of new buildings as compared with the cost of the old would be out of all proportion to the advantages which would result; the Committee considers that in their building proposals, Heads of Departments and Provincial Commissioners should keep this point firmly in mind.

191. So far as the housing of Government servants is concerned, there are heavy arrears to be overtaken. Much has been done in Nairobi and Mombasa in the past few years to provide suitable houses for African employees of the Government, but a great deal has still to be done in various townships throughout the Colony. Houses for European and Asian Government servants are also required in all the main towns of the Colony. We understand that the Development and Reconstruction Authority has been giving close attention to this problem for some months past and is collecting the necessary particulars of Government housing requirements throughout the Colony. We also understand that it has investigated the question of standards, and costs.

of construction and will shortly be able to make definite recomendations, which should materially assist in reducing the cost of construction. The Committee understands that the Development and Reconstruction Authority is working on the principle, especially in the case of African housing, of building more roomy houses to an adequate but not too expensive standard of construction. In the view of the Development and Reconstruction Authority, it is not necessary to build African houses, even in the municipal areas, to last for fifty or sixty years, since ideas and standards may change radically within the next twenty years. The Committee endorses this view.

192. So far as the housing of the African public generally is concerned, the Committee is aware of the work that has been carried out, and has been informed of some of the schemes contemplated, from funds provided from the Colonial Development and Welfare Vote to the Housing Fund, to which further reference is made in paragraph 199 below. The Committee considers that municipalities and townships should make the fullest possible use of this fund, especially since the free grant element in the fund permits of the provision of housing on a sub-economic basis without an undue burden on the local authority.

193. As regards African housing in the smaller townships, the Committee is hopeful that the Development and Reconstruction Authority's proposal to establish efficient brick and tile making organizations at suitable centres in the Colony—*see* paragraph 67 above—will benefit not only the townships themselves but also adjoining native areas, for which special demonstrations of brick and tile making and house-building could be arranged. An improved type of native house for rural areas is urgently required, but the cost must be within the capacity of the ordinary African's purse. It must also be of a type that could be built either by the African himself or by a local semi-skilled artisan. The Committee is glad to learn that the Development and Reconstruction Authority proposes to tackle this problem.

194. As regards departmental building requirements, the Committee is well aware of the needs of such departments as the Police and Prisons. New police stations and new prisons are required in many places, new police lines and new prison staff quarters are also required. The funds available cannot possibly cover all the requirements, even all the urgent requirements, but much can be done to improve present conditions, especially if the fullest use is made of local materials and local labour (including prison labour) under an efficient brick and tile making organization of the type referred to in paragraph 67 above. The Committee knows that the Development and Reconstruction Authority is investigating ways of reducing building costs, especially in the case of the simpler types of buildings. If this investigation is successful, the funds available should cover a larger programme than would otherwise be practicable. In this connexion the Committee invites attention to Section VI above and to the Report of the Sub-committee on Building Materials included at Appendix 4, Vol. II.

195. So far as the Provincial Administration is concerned, the chief requirements are additional housing for all races and in some cases better offices at provincial and district headquarters.

196. Having regard to the requirements mentioned above and to the funds available, the Committee recommends the following allocations for buildings; it suggests that the exact details of each of the building programmes should be settled by the member of Executive Council concerned in consultation with the Provincial Commissioner or Head of Department concerned and with the Development and Reconstruction Authority.

(*a*) Police buildings	£175,000
(*b*) Prison buildings	£100,000
(*c*) Public Works Department buildings (for its departmental purposes)	£150,000
(*d*) Administration—new offices and improvements to existing offices	£74,000
(*e*) Veterinary buildings	£12,000
(*f*) Additional buildings for Government Press	£16,000
(*g*) Staff quarters (European, Asian, Arab and African) ...	£450,000
(*h*) Unallocated (to be allocated by the Development and Reconstruction Authority as required)	£73,000
Total:	£1,050,000

197. These allocations include, where appropriate, provision for estimated expenditure from the 1st January, 1946, on various items contained in the 1946 Estimates of the Development and Reconstruction Authority or approved during the year as charges against the Development and Reconstruction Fund. For example the allocation for Police buildings includes the necessary provision for items 21, 22 and 23 of Head 14 of those Estimates; provision for items 1 to 6 and items 26 to 27 of that Head is included in the staff quarters allocation of £450,000; and the allocation for Public Works Department buildings includes provision for items 7, 17 and 25 of that Head and also for additional items approved during the year.

The special building requirements of such departments as the Agricultural, Education, Forest and Medical Departments are provided for under the appropriate Sections of this report. In addition such requirements as housing, when part of general housing schemes, should be provided for out of item (*g*) above, so far as funds permit.

198. The Committee is aware that the question of new centralized Government offices and of a Legislative Council Chamber has been raised recently, and would like to record its view that both projects should be deferred until more urgent building requirements have been met.

199. In so far as African housing in urban areas is concerned, legislation was enacted in 1943 to provide means whereby, *inter alia*, local authorities could proceed with schemes for sub-economic housing with financial assistance from the Colonial Development and Welfare Vote. As it was inevitable that, with current rates of wages and building costs, such housing would be sub-economic, it was agreed that it should be financed as to a maximum of one-half by free grant and as to the remainder by a loan repayable over 20 years at 3 per cent, the source of funds in both cases, totalling £600,000, being the Colonial Development and Welfare Vote. Later the Colonial Office suggested that the loan portion of the scheme might be financed from a loan raised by the Government locally with a free grant of interest from the Colonial Development and Welfare Vote during the currency of the Act. The suggestion was not pursued further at the time as it then appeared doubtful whether a local loan could be raised on satisfactory terms. Subsequently, however, in April, 1946, the Railway Administration had certain funds available for medium to long-term investment and the Committee understands that the Government proposes, subject to the approval of the Secretary of State for the Colonies, to borrow a sum of £300,000 to finance the loan portion of the scheme. As this sum of £300,000 will pass through the Development and Reconstruction Fund as a matter of accounting, we have shown it in the table at the end of Section IV of this report, though it will not form a charge against future loans for development purposes.

200. Of the total cost of £600,000 for the provision of such housing a sum of £273,000 has already been issued from the Colonial Development and Welfare Vote; a sum of £300,000 will, it is hoped, be provided by the proceeds of the Railway loan, leaving the following as charges against the Kenya allocation of the Colonial Development and Welfare Vote—

(*a*) a free grant of approximately £27,000 to make up the total of £600,000; and

(*b*) interest charges on the Railway loan during the currency of the Colonial Development and Welfare Act.

201. As regards (*b*), the amount so charged would be debited to the Kenya allocation of 3½ millions. We consider that, in view of the limited amount available in that allocation, it should be reserved to meet capital expenditure and recurrent expenditure of limited duration only. Moreover, in this particular case revenue will accrue from rents during the currency of the scheme as a partial offset against loan charges and a free grant of interest for a limited period would mean that the accounts would hardly reflect the true position. In the circumstances, we consider that assistance from the Colonial Development and Welfare Vote should be limited to the 50 per cent free grant amounting to £300,000 and that no recovery from that Vote should be made in respect of interest charges on loans, the funds so released being utilized to finance capital expenditure in other directions. We also recommend that any deficits which accrue in the annual accounts of these housing schemes should continue to be met by the Government and the local authority concerned in equal shares.

202. The Committee considered the question of housing for European and Indian members of the community and came to the conclusion that the need can best be met by private enterprise.

We hope that there will be a development and extension of the facilities usually provided by building societies, for both Europeans and Indians. Apart from the help such societies can render in solving the housing problem they play an important part in the economy of the country. They provide an outlet for real savings, diminish consumption expenditure, and as in most cases the money is raised in East Africa and spent here, investment in such societies has all the advantages of a local loan.

203. In concluding this section the Committee takes the opportunity of observing that, in view of the size of some of the construction works contemplated, it is probable that firms outside East Africa might be prepared to tender for some of the larger works. Such competition would not only serve a useful purpose in itself but would also offer the possibility of the importation of fresh ideas and new methods, tested and proved under the stress of recent war-time conditions, into East Africa. This applies to such projects as road reconstruction as well as buildings.

*SUMMARY OF RECOMMENDATIONS

Paragraph 190.—The general building programme should be confined to really urgent works and such works should be constructed to a standard that is adequate for the purpose in view in each case, without being too elaborate or expensive.

Paragraph 191.—Committee endorses the view that it is not necessary, even in municipal areas, to build African houses to last for fifty or sixty years.

Paragraph 196.—Allocations for buildings totalling £1,050,000 should be made.

Paragraph 200.—Provision should be made from the Colonial Development and Welfare Vote for a free grant of approximately £27,000 to make up the total of £600,000 under the Housing Ordinance.

(2) TOURISTS AND NATIONAL PARKS

204. The Committee has already indicated in paragraph 34 its view that tourists are of great economic importance to the country. In priority (3) of paragraph 35 they have indicated that radial roads should be provided to give access to places of special interest to tourists. The Committee holds the view that, as the economic importance of tourists is so widely appreciated in Kenya and is indeed self-evident, no further emphasis on this point is required. The Committee, would, however, stress the importance of information on East Africa, and Kenya in particular, being readily available in centres such as London, Bombay, New York and other places

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* For summary of Financial Implications *see* page 108.

where Kenya or East African agencies already exist or are contemplated. The Committee understands that the General Manager, Kenya and Uganda Railways and Harbours, has suggested that the main transport organizations serving East Africa, and certain internal organizations including the Kenya and Uganda Railways and Harbours, should combine in the production and distribution of a first-class guide-book, with the object of creating additional tourist traffic in preference to competing against each other in the tourist field. We are considerably impressed with this proposal and strongly recommend it and trust the Government will render all possible aid to the General Manager in pursuit of this objective. The Committee further recommends that a "Kenya Travel Association" should be formed to carry out publicity and to look after the interests of tourists in the country by running information centres in Nairobi, Mombasa and other towns as well as by ensuring that guide-books and simple maps are available either free or at a low price. We suggest that such a travel association be established on a private basis and that consideration should be given to its relationship with the East African Publicity Association; the question of modifying the articles of association of this latter body would no doubt require examination, and it might even be found that territorial travel associations on the lines suggested for Kenya would suffice, provided that some means of inter-territorial co-ordination, especially as regards publicity outside East Africa, was ensured. The Government, the Railway, shipping and air companies, the travel agencies, the motor transport companies, the hotels and trustees of the national parks should also be invited to join and subscribe to a central fund. The Committee would observe that it is on lines such as these that the tourist industry has been promoted in places such as Bermuda, Barbados, Southern California and Florida, and that in Switzerland associations of the type referred to have been in operation for nearly a hundred years. The Committee recommends that the Government subscription to such an association should, in the first instance, be £5,000 and that the Government should be prepared to subscribe an annual sum of not less than £1,500 towards the association, and to incur other expenditure on publicity up to £1,000 per annum. The Committee further recommends that a small *ad hoc* committee should consider the constitution and membership of such an association and inquire whether the other interests referred to would be willing to join. The main objectives the Committee has in mind in connexion with tourists are for the Government to provide a framework and the formulation of a policy and for the transport undertakings, hotels and commercial enterprise to organize and develop that policy; the success of the policy will, to a large extent, depend on the spirit in which those organizations meet the detailed requirements of the tourists.

205. The Committee, while stressing the importance of a tourist industry to Kenya, feels it necessary to state that, although it should eventually constitute an important invisible export, it is not an economic panacea, and that, to achieve lasting economic benefits, sustained effort and personal interest over many years are necessary on the part of all those selling their services to tourists. It therefore commends to those concerned the example set in a country

such as Switzerland, where the principle that the tourist or visitor is always right is rarely departed from. Before this can be said of the "industry" in Kenya there is considerable room for improvement. The Committee also wishes to draw attention to the fact that fair charges result in goodwill and perhaps return visits. Unfair charges result in bad publicity and act as a deterrent to further tourist trade. In other words, a satisfied tourist is Kenya's best advertisement for the development of the "industry".

206. Closely related to the tourist industry, and in fact an important part of the framework, is the question of national parks. The trustees have two functions to perform: (*a*) the preservation of the flora and fauna and objects of scientific and historic interest, and (*b*) the stimulation of interest in such matters. It is with the second of these functions that the Committee is here concerned. This will need the provision of roads of access within the parks, the provision of accommodation for visitors and the general management and control of the national parks and an expenditure on publicity. The Committee is convinced that with wise expenditure in these directions, the national parks will not only create revenue for national park purposes but will play a large part in attracting tourists and so contribute to the national income by way of invisible export. The Committee therefore recommends a block allocation of £100,000 to finance schemes put forward by the trustees of the national parks.

SUMMARY OF RECOMMENDATIONS

Paragraph 204.—Main transport organizations serving East Africa and certain internal organizations should combine in the production and distribution of a first class guide-book. "Kenya Travel Association" should be formed. Constitution of proposed association should be considered by small *ad hoc* committee.

Paragraph 206.—Block allocation of £100,000 should be made for financing of schemes put forward by the trustees of the national parks.

SECTION XV (1) and (2)—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended		Kenya Development and Reconstruction Fund	Loans for self-reimbursing expenditure	Kenya Colony Estimates: Estimated gross increased recurrent expenditure at end of 10 years	Kenya Colony Estimates: Estimated increased annual revenue at end of 10 years	Remarks
1		2	3	4	5	6
		£	£	£	£	
SECTION XV (1)—BUILDINGS	£					
General Buildings Programme—						
(a) Police Buildings	175,000					
(b) Prison Buildings	100,000					
(c) P.W.D. Buildings	150,000					
(d) Administration—new offices and improvements to existing offices	74,000					
(e) Veterinary Department Buildings	12,000					
(f) Additional Buildings for Government Press	16,000					
(g) Staff quarters (European, Asian, Arab and African) ..	450,000					
(h) Unallocated (to be allocated by the D.A.R.A. as required)	73,000	1,050,000	—	—	—	
African Housing—*see* paragraphs 199 and 200		327,000	—	—	—	
Maintenance of new buildings referred to above and elsewhere in the report		—	—	60,000	—	
Totals ..£		1,377,000	—	60,000	—	
SECTION XV (2)—TOURISTS AND NATIONAL PARKS						
National Parks—Block allocation		100,000	—	—	—	
Government subscription to Kenya Travel Association		—	—	1,500	—	
Other expenditure on publicity		—	—	1,000	—	
Circular Road round Ngong Hills		2,400	—	—	—	Funds provided under D.A.R.A. Estimates during 1946.
Totals ..£		102,400	—	2,500	—	

(3) TOWN PLANNING

207. It is necessary for the Development Committee to refer to the part which town and country planning must play in the healthy growth of Kenya. Planning for the siting of industries and the development of urban centres in relation to the areas they serve is, within reasonable limits, not a luxury but a necessity. The Committee, however, wishes to observe that, as Kenya is still in the pioneer stage, much development is essentially tentative or experimental and that, therefore, town and country planning must, in view of the resources available, generally be in the nature of guidance, rather than an attempt to lay down lines of development in the rigid schemes, possible and even desirable, in countries at an advanced stage of economic development. The Committee, therefore, cannot recommend at this stage that there should be any elaborate town and country planning organization; this by the criteria of paragraph 9 could not be justified.

208. The Committee is of opinion that full use should be made of the Town Planning Adviser, recently appointed, by departments concerned, that he should find a wide field of usefulness by working through them, and that information already available, or in their possession, will, when analysed and collated, give him a minimum factual basis for his work. The Town Planning Adviser can, on this basis, fulfil a most useful function in areas where native populations call for new housing facilities, properly sited in relation to their employment, and in guiding development according to the plans already drawn up for centres such as Nairobi and Mombasa, and by advising where modification is necessary in the light of changing circumstances. The Town Planning Adviser will also be in a position to give most valuable advice, in co-operation with the local representatives of the administration and specialist departments, largely on the basis of the facts available, on the development of such centres as Thika or Gilgil. If the best use is to be made of his services, however, some assistance in the form of additional technical and other staff will be necessary. After discussion with the Adviser, the Committee recommends the provision of £2,500 per annum for three years for additional staff and £500 for the purchase of books and equipment.

*Summary of Recommendations

Paragraph 207.—Elaborate town and country planning organizations not recommended at present stage.

Paragraph 208.—Provision for some additional staff recommended.

(4) GEOLOGICAL SURVEY

209. The Committee referred at paragraph 29 to the urgent importance of undertaking a geological survey of the Colony. As long ago as August, 1944, an application was made to the Secretary of State for the Colonies for a free grant from the Colonial Development and Welfare Vote, with the object of undertaking a thorough geological survey of the greater part of the southern half of Kenya. The scheme, while not rejected in principle, was

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* For summary of Financial Implications see page 112.

not approved for action in view of the fact that the Secretary of State was considering the establishment of a central organization to undertake geological work through the Colonial Empire on the basis of regions rather than of individual colonies, and the further fact that there was no prospect at that time of recruiting the six geologists envisaged in the application. In December, 1944, the Economic and Development Secretary suggested a possible solution of the recruitment difficulty and asked that the decision of the Secretary of State in regard to the application might be reconsidered, in view of the urgent necessity for progress at a rapid rate in the geological survey of the Colony. In August, 1945, the matter was referred to the Development and Reconstruction Authority, and the conclusion was reached that in all the circumstances it was desirable that the inter-territorial organization proposal should be supported, and the Secretary of State was so informed. In March, 1946, a communication was sent to the Secretary of State by the Government of Kenya, referring to proposals which had been made for the future organization and expansion of geological survey work, and in particular the establishment of the central survey organization mentioned above, and inquiring when operations on the East African survey could be expected to begin. A reply was received on the 9th of April, 1946, indicating that the Secretary of State hoped shortly to appoint a Director of Colonial Geological Surveys who would then review the reactions of Colonial Governments to the proposals referred to above and formulate plans for future action.

210. The Committee, having regard to the criteria of paragraph 9, cannot exaggerate the importance of a geological survey as an essential step in determining what the economic potential of Kenya is. It is only on the basis of cheap power and primary sources of raw material, such as coal, basic chemicals and oil that any large scale industrial development will be possible in Kenya. It is by the discovery of precious and semi-precious minerals that the national income can be spectacularly increased. For these reasons, and because a thorough geological survey is the essential step to discover what the greatest unknown economic potential of the Colony amounts to, we recommend that a survey should be given highest priority.

211. The Committee, therefore, urges that, unless there is prospect of an early start in regard to the geological survey of Kenya under the central scheme, money should be made available forthwith and that the scheme originally submitted to the Colonial Office for the survey of 50 per cent of the area of Kenya should be started as soon as geologists can be recruited. In this connexion we understand that any geologists obtained would in fact be recruited on the understanding that they would be made available for the regional survey when it gets under way.

212. The Committee also recommends that every effort should be made to interest commercial organizations to undertake their own surveys of areas in the Colony which are of geological interest to them. The Committee notes that oil reconnaissances were made in the years immediately before the war by commercial firms, and that in neighbouring territories most minerals at present being worked were discovered as a result of such surveys. The

Committee recommends, therefore, that every opportunity should be taken, both through the East African Office and through private contacts, to encourage commercial surveys within the territory of the Colony. It strongly recommends also that all possible facilities be extended in the way of import and entry permits, access to geological information already in the possession of the Government, and assistance in reaching the more remote parts of the Colony, with a view to encouraging such companies or individuals.

SUMMARY OF RECOMMENDATIONS

Paragraph 210.—Geological survey should be given the highest priority.

Paragraph 211.—If central scheme cannot be started in very near future Kenya should proceed to act in advance and independently.

Paragraph 212.—Commercial organizations should be encouraged to undertake their own geological surveys of areas of the Colony of interest to them and should be granted facilities to that end.

SECTION XV (3) and (4)—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended 1	Kenya Development and Reconstruction Fund 2	Loans for self-reimbursing expenditure 3	Kenya Colony Estimates		Remarks 6
			Estimated gross increased recurrent expenditure at end of 10 years 4	Estimated increased annual revenue at end of 10 years 5	
	£	£	£	£	
SECTION XV (3)—TOWN PLANNING					
Town Planning Adviser and Staff—Salaries and Other Charges for first three years at £2,500 p.a., exclusive of salary of Town Planning Adviser	7,500	—	—	—	
Capital Expenditure	500	—	—	—	
Salaries and other charges if transferred to Colony's Estimates at end of three years	—	—	2,500	—	This will depend upon decision as to future organization of Town Planning.
Totals £..	8,000	—	2,500	—	

B.—KENYA SCHEMES FOR RESEARCH, THE COST OF WHICH IT IS HOPED WILL BE BORNE, WHOLLY OR IN PART, AS A CHARGE AGAINST THE COLONIAL DEVELOPMENT AND WELFARE VOTE CENTRAL ALLOCATION

Proposals Recommended	Total Capital Expenditure proposed	C.D. and W.V. Central Allocation		Kenya Colony Estimates Estimated gross increased recurrent expenditure at end of 10 years	Remarks
		Capital	Recurrent		
	£	£	£	£	
SECTION XV (4)—GEOLOGICAL SURVEY					
Geological Survey—					
(a) if survey carried out under central or regional scheme, there may be no direct expenditure from Kenya funds;					
(b) if Kenya acts in advance and independently, say	50,000	50,000	—	—	
Totals ..£	50,000	50,000	—	—	

(5) FISHERIES

213. It is clearly important that steps should be taken to improve and develop the Colony's fishery resources, both in the interests of the nutrition of its inhabitants and as a means of increasing the national income.

214. As regards Lake Victoria, financial assistance has been granted from the Colonial Development and Welfare Vote for the establishment of a Lake Fishery Research Institute at Jinja, and steps have been taken to constitute a Lake Victoria Fisheries Board with executive power. A difficulty has been experienced in obtaining a suitable officer for the post of Lake Fish Warden on whom the initial organization of the Board would largely depend. The Committee welcomes the general development proposed and trusts that it will soon be possible to secure the services of suitable staff.

215. The incipient fisheries on Lakes Rudolph and Baringo are capable of great expansion; Lake Rudolph indeed contains vast quantities of excellent fish, and its potentialities are limited only by transport difficulties and costs. The Committee considers that the industry on both these waters should be fostered if the above difficulties can be overcome.

216. The Committee also considers that the possibility of establishing a fish culture farm, where modern cultural methods may be tried on the best indigenous, and the more promising exotic fish, is worthy of immediate consideration, to provide data on which a pond industry in various parts of the Colony, particularly the native areas, may be built up. The Committee believes that the provision of fish supplies by artificial farming methods in many areas so situated that they would not otherwise obtain them would be of great value, and recommends that the preliminary experimental work should be undertaken as soon as possible. For capital expenditure a sum of £10,000 is proposed for the purchase of some 300 acres of suitable land and the establishment thereon of a fish farm, complete with fish ponds, housing, etc. Recurrent expenditure of the order of £784 per annum for staff and £1 500 per annum for other charges would be necessary.

217. As regards sea fisheries, an assistant fish warden has been appointed to deal with the exploitation and development of sea fisheries. One of his earliest tasks will be to secure full information regarding species, distribution, migration, the economic position of fishermen, marketing and distribution, and we consider that the Government should accord him the fullest possible support to ensure that he has adequate powers for obtaining such information as may be thought necessary.

218. We understand that a fishery research ship is shortly being sent from the United Kingdom to investigate sea fisheries in the neighbourhood of Mauritius. It is expected that this task will take about two years. It has been suggested by the Fisheries Adviser to the Secretary of State that when this task has been completed the ship should continue her work in the Indian Ocean by examination of the possibilities of the East African coast line. We strongly support this suggestion.

219. With regard to trout fishing, the Game Warden has stressed the necessity for the employment of a fresh-water biologist to undertake an ecological survey of the trout rivers of the Colony. The rivers are subject to serious deterioration in the sport they provide, and it is essential that skilled investigation be undertaken, so that methods necessary to combat those tendencies may be devised. The Committee suggests that the funds required for this work, namely £950 for capital expenditure upon a laboratory, equipment and staff housing, and £1,033 for annual recurrent expenditure upon personal emoluments and other charges, should be borne as to the whole capital and three-quarters of the recurrent expenditure by the Colonial Development and Welfare Vote central allocation and as to the remaining quarter of recurrent expenditure by general revenue. The Committee understands that the survey would cover a period of about five years.

The Committee is also informed that there is a good case for the establishment of a small hatchery, for the restocking of waters that require it, and recommends that this should be constructed as soon as possible. For capital expenditure on hatchery, buildings, housing, ponds and other works the sum of £2,500 would be required, and for annual recurrent expenditure £685 per annum. We attach considerable importance to the maintenance of trout fishing in Kenya at a high standard. Not only does this sport provide an attraction to tourists but also a valuable amenity to many of the permanent residents of Kenya whose opportunities for short recuperative leave are limited.

SUMMARY OF RECOMMENDATIONS

Paragraph 216.—A fish culture farm should be established where preliminary experimental work could be carried out with a view to determining the manner in which a pond fish industry might be built up.

Paragraph 219.—An ecological survey of the trout rivers of the Colony should be undertaken by a fresh-water biologist, and a small trout hatchery should be established as soon as possible.

SECTION XV (5)—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended	Kenya Development and Reconstruction Fund	Loans for self-reimbursing expenditure	Kenya Colony Estimates		Remarks
			Estimated gross increased recurrent expenditure at end of 10 years	Estimated increased annual revenue at end of 10 years	
1	2	3	4	5	6
	£	£	£	£	
SECTION XV (5)—FISHERIES					
Fish Culture Farm	10,000	—	2,300	—	
Trout Hatchery	2,500	—	700	—	
Ecological Survey of Trout Rivers	Table B.	—	Table B.	—	
Totals .. £	12,500	—	3,000	—	

B.—KENYA SCHEMES FOR RESEARCH, THE COST OF WHICH IT IS HOPED WILL BE BORNE, WHOLLY OR IN PART, AS A CHARGE AGAINST THE COLONIAL DEVELOPMENT AND WELFARE VOTE CENTRAL ALLOCATION

Proposals Recommended	Total Capital Expenditure proposed	C.D. and W.V. Central Allocation		Kenya Colony Estimates—Estimated gross increased recurrent expenditure at end of 10 years	Remarks
		Capital	Recurrent		
	£	£	£	£	
SECTION XV (5)—FISHERIES					
Ecological Survey of Trout Rivers	950	950	4,275	—	The Survey will cover a period of about five years. Total recurrent expenditure during that period would be approximately £5,700 which, on the basis suggested in paragraph 219, would fall to be borne as to three-quarters (£4,275) by the C.D. and W.V. Central allocation and as to one-quarter (£1,425) by the General Revenue of the Colony.
Totals .. £	950	950	4,275	—	

(6) LOCAL MARKET FOR SECURITIES

220. At paragraph 17 of Section IV of the report the Committee stresses the necessity for making adequate provision for marketability in the case of all future loans and suggests that this can be achieved by the Government making arrangements with the Banks under which the latter will undertake to purchase, at a price agreed by them and the Government, any stock offering and will be prepared to sell stock to buyers at a slightly higher price. The Committee wishes to refer to the desirability of establishing a local market for securities not only in respect of Government loans, but in respect of stocks and shares in local companies.

221. In the past local marketable securities have not been numerous, and in regard to the more important categories, quotations on the London and Johannesburg Stock Exchange have sufficed, but in view of the industrial development which it is reasonable to expect, it is felt that a local market in Kenya and East African securities would play a valuable part in the business and economic life of the Colony.

222. We therefore recommend that a small *ad hoc* committee should be appointed to discuss with the Banks and those individuals who already attempt to deal in local securities the possibility of establishing a permanent market in such stocks and shares.

SUMMARY OF RECOMMENDATIONS

Paragraph 222.—A small committee should be appointed to discuss with the Banks and those individuals who already attempt to deal in local securities the possibility of establishing a permanent market for Government loans and stocks and shares in local companies.

(7) STATISTICAL SERVICES

223. The Committee in its comments upon the report of the Sub-committee on Industrial Development recommends at paragraph 146 that a statistical service should be provided and that it should be on a permanent basis. The statistical service is not only essential in connexion with industrial development, it also provides the necessary basic information which is required for the use of all departments of Government and for the information of the public. The Committee gave much consideration to the form of such a service and its functions. We came to the conclusion that there are at least two essentials to such a service. First, that so far as the information which is required for Kenya is concerned the service must be under the control of the Government, and secondly that as continuity and stability in the compilation of statistics is of primary importance steps must be taken to secure this. There is already an inter-territorial statistical service, and the Committee would see no objection to this service being used for the compilation of Kenya statistics if this should prove cheaper, provided that the two essentials are secured. We recommend that this should be done by the appointment of a small authoritative committee under the aegis of the Secretariat. The

Committee would, in fact, be a management committee and would decide the statistical series which could appropriately be compiled for Kenya and the form they should take and would ensure as far as possible continuity and stability. We recommend that the question should be examined on these lines with those responsible for the inter-territorial statistical service. If, however, a solution cannot be found on these lines we consider a Kenya statistical service should be set up under the aegis of the Secretariat and a committee appointed on the lines indicated.

224. The Committee recommends that a sum of £3,000 should be set aside for capital expenditure and an annual recurrent expenditure of £2,000 to £3,000 should be provided.

225. We should like to emphasize that the amount of money recommended is not the criterion of the importance which we attach to the compilation of accurate statistics. For instance, it is impossible to exaggerate the importance of obtaining and making available reasonably accurate figures of the national income. We are, in fact, convinced that without suitable statistics, promptly and accurately presented, development will be seriously hampered and misdirection of effort may occur. Should the amount proposed not prove adequate the Committee recommends that the necessary additional provision should be made.

SUMMARY OF RECOMMENDATIONS

Paragraph 223.—Reference is invited to the paragraph itself.

Paragraph 224.—The Committee recommends that a sum of £3,000 should be set aside for capital expenditure and an annual recurrent expenditure of £2,000 to £3,000 should be provided.

SECTION XV (7)—SUMMARY OF FINANCIAL IMPLICATIONS

KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended 1	Kenya Development and Reconstruction Fund 2	Loans for self-reimbursing expenditure 3	Kenya Colony Estimates		Remarks 6
			Estimated gross increased recurrent expenditure at end of 10 years 4	Estimated increased annual revenue at end of 10 years 5	
	£	£	£	£	
SECTION XV (7)—STATISTICAL SERVICES					
Kenya Statistical Service	3,000	—	3,000	—	
Totals .. £	3,000	—	3,000	—	

(8) RURAL INDUSTRIES

226. As regards rural industries the Committee considers that spinning and weaving, simple woodwork and metal work, tanning and leather work, mat-making and other handicrafts deserve further encouragement. Such occupations have an educational and cultural value apart from their economic significance. Economically they provide a small but useful addition to the Africans' income and, therefore, to the national income.

227. Another and equally important aspect is the relation such occupations have to the welfare programme. During the past three years a considerable amount of work has been done in fostering these industries, particularly spinning and weaving, and instructional centres have been established in various parts of the Colony and the industry has spread widely. The Committee envisages that this work will be carried on through the proposed social welfare centres, which will become places where such things are discussed and a means of spreading useful crafts, which, in their turn, will result in the growth of rural or cottage industries. During the course of training at Jeanes School, African Social Welfare Workers and their wives will be given some instruction in various handicrafts, but, in order to achieve the best results, supervision is essential.

228. The Committee, therefore, recommends that provision be made within the framework of the Social Welfare organization for the post of an officer well versed in rural industries, to supervise and direct the healthy development of such industries. The financial provision required for this purpose is shown in the summary at the end of Section XIV of this report.

229. The Committee wishes to pay tribute to the good work that has been done in initiating rural industries, particularly as much of this work has been done on a voluntary basis, and the progress made reflects great credit on those concerned. The Committee hopes that this co-operation will continue in the future.

SUMMARY OF RECOMMENDATIONS

Paragraph 228.—Officer should be appointed (within framework of social welfare organization) to supervise and direct the development of rural industries.

SUMMARY OF FINANCIAL IMPLICATIONS OF PROPOSALS RECOMMENDED

Rural Industries Officer: *See* summary of financial implications at end of Section XIV.

Section XVI—Finances

230. As pointed out in paragraph 11, it has been necessary to have regard to two limiting factors in the formulation of the programme set out in this report, namely, (*a*) the funds available for the purpose of financing capital expenditure, and (*b*) the ability of the Colony to bear the consequential recurrent expenditure which is bound to arise on any expansion of the productive and social services provided by the Government. To these there might be added a third, namely, the ability of local authorities to bear such additional charges as would fall to be borne from local revenues.

231. The funds available to meet capital expenditure have been discussed in Section IV of this report and the capital expenditure proposed has been designed to fall within the limits set out in that section and to leave a small margin for schemes which may prove necessary but which cannot be foreseen at the present time. That margin, amounting to £241,000, is small in relation to the total programme, but it is not possible to increase it at this stage without eliminating from the plan some item or items involving capital expenditure. In view of the urgent necessity of every item in the plan, the Committee does not feel able to recommend any such elimination.

232. It is more difficult to judge the extent to which the Colony's budget can stand the additional recurrent expenditure involved in these proposals. The main object of the plan, as stated in paragraph 9 of the report, is to increase the national income in the shortest possible space of time. That should lead to a corresponding increase in the Colony's taxable capacity, but it is difficult at this stage to estimate with any accuracy what that increase will amount to, translated into terms of additional revenue, after a period of ten years. There is indeed no option but to be arbitrary, and the Committee has assumed that revenue from taxation will at the end of the ten-year period amount to approximately 25 per cent more than at the present time. This assumption is quite arbitrary, but nevertheless does not appear to the Committee to be unreasonable. Such an increase would involve revenue of approximately £1,100,000 per annum above the present level. Of this the Committee surmises that a sum of perhaps £300,000 may be required to meet the increased cost of such services as the Provincial Administration, the Police and Prisons Departments, etc., as well as the normal increase in the Pensions bill, leaving a balance of about £800,000 available to meet additional recurrent expenditure arising from the recommendations in this report. It will be observed that those recommendations involve an increase in recurrent expenditure of *£1,188,000 per annum, offset by consequential revenue to an amount of £418,000, leaving a net increase of £770,000. This net figure is less than the amount of £800,000 mentioned above, but it must be borne in mind that it is dependent upon the acceptance of a drastic policy in regard to the payment of fees in respect of African education, and that it may be found upon closer examination that the revenue accruing from that source may be less than estimated.

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* This figure does not include increases in recurrent expenditure arising from inter-territorial schemes of the type referred to in paragraphs 20 and 21 of this Report which at present it is impossible to estimate with any accuracy.

233. As stated, the Committee's estimate of the additional revenue available in ten years' time is arbitrary and may well be wide of the mark. If the trend of events during the next few years tends to indicate that it is unduly optimistic, then it will be necessary, in order to ensure budgetary stability, to take steps to curtail those parts of the programme which involve recurrent commitments. (At the same time it may be necessary to increase the tempo of such capital expenditure as does not involve recurrent commitments in order that it may act as a counteracting force to the downward phase of the trade cycle—*see* paragraph 27 above.) There is one way in which it is reasonably possible that the Committee's arbitrary estimate of the revenue in ten years' time may turn out to be a serious under-estimate, and that is if the national wealth of the Colony is increased in a spectacular fashion by the discovery on a large scale of exploitable mineral resources. Such a discovery could have a profound effect on the development programme and the Committee wishes to emphasize once again that absolute priority should be accorded to geological survey.

234. The same considerations as apply to the Colony's recurrent expenditure apply with equal force to the expenditure of local authorities, both in urban areas, settled areas and native areas. In particular, acceptance of the programme for the expansion of primary education and for the provision of non-personal health and welfare services will impose heavy responsibilities on the local authorities concerned. The speed at which the programme can be carried out will depend upon the growth of revenue resulting from increased rateable capacity. The authorities concerned will find it necessary to watch the position carefully from year to year, so that capital expenditure is not incurred which would give rise to recurrent charges on a scale which would jeopardize their financial stability.

235. A study of the reports of the various Sub-committees and a comparison between the programme recommended in this report and the requirements of the Colony as set out by the Sub-committees indicate clearly that the plan now advocated is, to say the least of it, inadequate to the Colony's needs. The road programme might well be quadrupled; fifty rather than twenty health centres should be created; twenty millions rather than three could probably be well spent on the reconditioning of African areas and African settlement, and the programme for the development of African education might be put into effect at least twice as fast as the Committee has felt able to recommend. In all these, and in other aspects of the programme, the limiting factor is the finance available. The assistance provided by the British taxpayer under the Colonial Development and Welfare Act though generous is not sufficient. In the absence of further financial assistance or investment from outside the Colony further development must depend upon the Colony's own resources, and the Committee recommends that the programme be reviewed constantly in the light of changing circumstances. If further funds can be made available as time goes on, the programme should be expanded and accelerated.

236. As has been pointed out, the proposed programme, inadequate though it may be, will entail heavy additional recurrent expenditure. That must necessitate additional revenue from taxation. If the programme is to be

carried out, and the Committee is firmly convinced that it is much less than should be carried out, then it is impossible to expect any appreciable reduction in taxation. The Committee hopes and believes that the proposed programme will create additional wealth and therefore have the result of spreading the burden of taxation over a wider field, but the plain facts are that it is not possible to contemplate a development programme, even with generous assistance from His Majesty's Government in the United Kingdom, which will not involve increased recurrent expenditure, and it is not possible to meet increased recurrent expenditure without increased revenue from taxation.

237. The Committee therefore wishes to point out that if the programme recommended in this report is to be carried out taxation will have to remain at a high level. The fiscal system should be so designed as to afford the maximum of encouragement to industrial and agricultural development.

The payment of taxation on this level places on the shoulders of the Government a clear obligation to ensure that there is no waste and that all the funds available, both for capital and recurrent expenditure, are used to the best advantage. For that reason, among others, the Committee welcomes the appointment of the Development and Reconstruction Authority and considers that insistence on securing the best value for money in the execution of the programme must be a cardinal duty of the Authority.

238. A number of points of financial detail require mention. The Development and Reconstruction Fund has become effective in the Colony's Estimates as from the 1st of January, 1946. The new Colonial Development and Welfare Act became effective on the 1st of April, 1946, so that expenditure incurred between the 1st of January and the 31st of March, 1946, against Colonial Development and Welfare schemes form an addition to and not a charge against the 3½ million Colony allocation under the new Act. The total Colonial Development and Welfare Vote money passing through the Development and Reconstruction Fund is therefore slightly in excess of 3½ millions—*see* paragraph 25 above.

239. Provision has had to be made in our estimates for the completion of works included in the 1946 Estimates of the Development and Reconstruction Authority. Expenditure on such works forms a charge against the Development and Reconstruction Fund.

240. The Development and Reconstruction Estimates for 1946 also include provision for the increased staff and additional plant, equipment and machinery that it was estimated would be required for a development and reconstruction programme involving the expenditure of some £15,000,000 over the next ten years. Several of the new posts have already been filled, indents were placed for plant and machinery several months ago, and the Committee is informed that the Development and Reconstruction Authority hopes that it will be possible to secure most of the staff and plant required before the end of this year. Expenditure on this account forms a charge against the Development and Reconstruction Fund, and in most cases the necessary provision has been included in the allocations made for the various services or projects.

241. The estimates of recurrent expenditure have been based largely on the present salary structure. A general revision of salaries based on the post-war purchasing power of sterling may take place during the period under review, and to that extent the estimates of recurrent expenditure envisaged by the Committee may be found to be on the low side. Moreover, it will be appreciated that it is not possible for the Committee to furnish a really accurate estimate of the recurrent cost of various schemes at the end of a ten-year period: there are too many unknown factors, the most important of which is the commodity price level. In the circumstances the Committee has deemed it prudent to increase all estimates of recurrent expenditure, other than debt charges, by a *margin of 10 per cent to cover contingencies.

242. In line with the principle of timing expenditure to stabilize the Colony's economy during deflationary periods, it is a corollary that local loans should be raised at times when inflationary influences are in the ascendancy. Such a loan policy is the complement of the expenditure policy recommended in that it will exercise a stabilizing effect during the upward phase of the trade cycle, apart from the fact that when money is more plentiful than investment opportunities, finance can be obtained by the Government at more favourable interest rates. The Committee, therefore, recommends that a local loan, in the form of a tap issue, should be made available as soon as possible as the economic conditions at the present time are favourable. As regards external loans, the same arguments do not apply and the Committee assumes that they will be raised as and when required and authority is forthcoming.

243. In considering our programme of capital and expenditure and the recurrent liabilities contingent upon it, we have had in mind the necessity of keeping the balance of payments as between Kenya and countries outside the East African currency area in proper equilibrium. The fact underlines the importance of raising as much loan money as possible locally, since from an economic point of view, interest payments and sinking fund payments on local loans represent transfer of purchasing power within the Colony and do not affect in any way the balance of payments between East Africa and the rest of the world.

244. Moreover, in reaching the conclusion that it is justified in recommending the expenditure proposed over the next ten years, the Committee had in mind the fact that much of the money which it is proposed to spend will, in fact, stay in East Africa, as it will be paid out in the form of wages and the purchase of local materials. The Committee therefore takes the view that the sterling made available through the Colonial Development and Welfare Vote should be ample to meet any adverse effects upon the balance of payments resulting from the importation of capital, equipment and materials necessary to carry out the development and reconstruction programme, quite apart from the favourable effects upon the balance of trade which should in the long run accrue from the increased production which the Committee's programme is designed to achieve.

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* This item and certain other miscellaneous items for which provision must be made and which cannot conveniently be included in the other financial summaries are contained in the financial summary on page 124. The notes about the items are self explanatory.

MISCELLANEOUS—SUMMARY OF FINANCIAL IMPLICATIONS

A.—KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

Proposals Recommended	Kenya Development and Reconstruction Fund	Loans for self-reimbursing expenditure	Kenya Colony Estimates		Remarks
			Estimated gross increased recurrent expenditure at end of 10 years	Estimated increased annual revenue at end of 10 years	
1	2	3	4	5	6
	£	£	£	£	
MISCELLANEOUS					
Administrative Expenses—Development and Reconstruction Authority Administrative and General Staff, say £13,000 per annum for 10 years, gratuities £11,580, passages £4,500, say ..	146,000	—	—	—	For details of staff, see D.A.R.A. Estimates 1946, Head 1.
Interest and Sinking Fund Charges on Public Debt of £7,000,000 (£250,000 on Increased Public Debt of £5,000,000, and £100,000, covered by revenue reimbursement, on £2,000,000 loans for self-reimbursing expenditure.)	—	—	350,000	100,000†	
Passages—additional permanent staff	—	—	10,000	—	
Contingencies	—	—	76,000	—	Based on 10% of increased recurrent expenditure at end of 10 years, excluding interest and sinking fund charges on increased public debt.
Gratuities—Contract Staff—General Works Staff: £100,000; Agricultural Staff: £35,000; Settlement Staff: £30,000	(165,000)	—	—	—	Excluded from total as amount will be charged out to works.
Passages—Contract Staff—General Works Staff: £70,000; Agricultural Staff: £25,000; Settlement Staff: £15,000	(110,000)	—	—	—	Excluded from total as amount will be charged out to works.
Loans (for self-reimbursing expenditure) to Local Authorities ..	—	800,000*	—	—	See item (f) in paragraph 196 of this report.
Printing Machinery for Government Press	24,000	—	—	—	
Totals .. £	170,000	800,000	436,000	100,000	

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*This amount, together with the sums of £200,000 and £1,000,000 shown in Table A on page 127, makes up the sum of £2,000,000 mentioned in paragraph 14 of this Report. The allocation of loans from this sum of £800,000 will have to be determined by the Government in the light of applications from, and the requirements of, Local Authorities.

†Does not include revenue from European Settlement Scheme amounting to £54,000 per annum—*see* summary on page 22.

Section XVII—Acknowledgments

245. It remains for us to express our sincere appreciation of the valuable services rendered by the many bodies and persons who have, at various stages, contributed to the preparation of the plan presented in this report. It is not possible for us to mention them all individually, but we wish to pay tribute to Heads of Departments, Provincial Commissioners, Officers in Charge of Extra-Provincial Districts, District Commissioners and Local Authorities for their work in this connexion, and also to those co-opted members of our Sub-committees who, in conjunction with members of the main Committee, performed arduous duties in connexion with the examination of plans and the rendering of reports thereon. All the plans and proposals submitted have been carefully examined; they have made a valuable contribution to the composite picture of development and reconstruction requirements, even though it has not been possible, because of limitation of funds and determination of priorities, to include all of them in our final recommendations.

246. Our sincere gratitude is due to Mr. K. W. Simmonds, our indefatigable and most helpful Secretary; to Miss A. S. J. Bennitt, who was responsible for the major part of the typing of the Sub-committees' reports; to Miss I. M. Armstrong and Miss B. R. Froome, who assisted in the typing of this report in all its stages; and to the Government Printer and his staff for efficient and expeditious printing.

We have the honour to be,
Sir,
Your Excellency's obedient servants,

G. M. RENNIE,
Chairman.

J. F. G. TROUGHTON,

In signing this report we wish to record our sincere appreciation of the work of our two Chairmen, Mr. J. F. G. Troughton in the early stages and Sir Gilbert Rennie in the later stages of our deliberations. By their guidance and by the clear way in which they presented matters to us for our consideration our labours have been materially lightened.

W. S. MARCHANT,
A. HOPE-JONES,
R. E. ROBINS,
F. H. DE V. JOYCE,
FRANCIS SCOTT,
H. B. HAMILTON,
S. G. AMIN,
(Subject to minority report)
Members.

K. W. SIMMONDS, *Secretary.*
6th July, 1946.

MINORITY REPORT BY MR. S. G. AMIN

1. It was at a very late stage in the deliberations of this Committee that I came to be appointed a member during the absence from the Colony of Mr. R. B. Pandya. The main objectives and principles by which the Committee had decided to be guided in framing a development policy were laid down long before, in the Interim Report submitted to His Excellency the Governor in April, 1945, and all the sub-committees had practically completed their tasks before my appointment. I was connected with the work of this Committee only during the period of the preparation of the final Report and my position on the Committee was, therefore, a rather difficult one.

2. Thus, it was only on a number of minor points that I found it impossible to express my views and even on these I received practically no support from any member, either official or unofficial. I have, therefore, been compelled to add dissenting notes in several paragraphs in the body of the main Report. My experience in this regard has surprised me and I have, regretfully, come to the conclusion that there has been a serious diminution, recently, in the amount of consideration given by the official members to the requirements of the Asian communities generally.

3. In my view, the development policy for the next ten years should be to concentrate all available funds and man power for the establishment of free and compulsory primary education for all African children and a sufficient number of secondary schools throughout the Colony for children of all races. Along with it, a campaign of mass education and adult literacy should be taken in hand. If necessary, all available literate Africans, Indians and Europeans should be harnessed to this task during the next ten-year period.

4. In my view, the financial resources available for development purposes should be used in the following order of priorities: (1) Education of the children; (2) Mass education and adult literacy; (3) Provision and expansion of health services; (4) Schemes for agricultural and industrial expansion.

5. My reason for preferring the above order is that nothing substantial or stable can be built on an illiterate and ill-informed and unhealthy mass of population as a foundation. It is only after the first three groups of services above mentioned are adequately supplied that available financial resources should be used for economic expansion in the agricultural and industrial activities.

6. As the schemes stand, they will further strengthen European agriculture and enterprise and add an additional burden on the resources of the Colony by the creation of a number of new departments providing for hundreds of heavily paid European officials. Even at present, the European official is under the influence of the European settler community and in my view unless some drastic changes are made in the schemes recommended in this Report, the combination of the top-heavy European administration and the largely subsidized European settlers will become a veritable stranglehold on the future development of the cultural and economic life of the African and Asian communities.

S. G. AMIN.

FINAL SUMMARY—TABLE A

A.—SUMMARY OF KENYA SCHEMES THE COST OF WHICH IT IS PROPOSED SHOULD BE BORNE, WHOLLY OR IN PART, BY THE DEVELOPMENT AND RECONSTRUCTION FUND, OR BY LOANS FOR SELF-REIMBURSING EXPENDITURE

(All figures to the nearest £1,000.)

Proposals Recommended 1	Kenya Development and Reconstruction Fund 2	Loans for self-reimbursing expenditure 3	Kenya Colony Estimates	
			Estimated gross increased recurrent expenditure at end of 10 years 4	Estimated increased annual revenue at end of 10 years 5
	£	£	£	£
Section				
VI. Agriculture and Veterinary Services	6,387,000	200,000	20,000	56,000
VII. Building Materials	3,000	—	—	—
VIII. Communications	2,186,000	—	52,000	69,000
IX. Education	2,435,000	—	295,000	138,000
X. Forestry	459,000	—	76,000	—
XI. Health, Hospital Services and Nutrition	847,000	—	86,000	—
XII. Industrial Development	100,000	—	6,000	2,000
XIII. Water Development	1,220,000	1,000,000	50,000	50,000
XIV. Social Welfare, Information and Mass Education	35,000	—	34,000	3,000
XV (1). Buildings	1,377,000	—	60,000	—
(2). Tourists and National Parks ..	102,000	—	2,000	—
(3). Town Planning	8,000	—	2,000	—
(4). Geological Survey	Table B.	—	—	—
(5). Fisheries	13,000	—	3,000	—
(7). Statistical Services	3,000	—	3,000	—
(8). Rural Industries	—	—	—	—
XVI. Miscellaneous	170,000	800,000	436,000*	100,000
Totals ..£	15,345,000	2,000,000	1,125,000	418,000
Unallocated .. ..£	241,000			
GRAND TOTAL ..£	15,586,000			

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*Includes £350,000 for interest and sinking fund charges on increased public debt; £10.000 for passages for additional permanent staff; and £76,000 for contingencies.

FINAL SUMMARY—TABLE B

B.—SUMMARY OF KENYA SCHEMES FOR RESEARCH, THE COST OF WHICH IT IS HOPED WILL BE BORNE, WHOLLY OR IN PART, AS A CHARGE AGAINST THE COLONIAL DEVELOPMENT AND WELFARE VOTE CENTRAL ALLOCATION

(All figures to the nearest £1,000.)

Proposals Recommended	Total Capital Expenditure proposed	C.D. and W.V. Central Allocation		Kenya Colony Estimates—Estimated gross increased recurrent expenditure at end of 10 years
		Capital	Recurrent (10 years)	
	£	£	£	£
Section				
VI. Agriculture and Veterinary Services	134,000	134,000	188,000	28,000
IX. Health, Hospital Services and Nutrition	20,000	20,000	—	—
XII. Industrial Development	—	—	150,000	30,000
XIII. Water Development	58,000	58,000	—	—
XV (4). Geological Survey	50,000	50,000	—	—
(5). Fisheries	1,000	1,000	4,000	—
Totals ..£	263,000	263,000	342,000	58,000

$\underbrace{\qquad\qquad\qquad\qquad}_{\text{£605,000}}$

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COLONY AND PROTECTORATE OF KENYA

REPORT
OF THE
DEVELOPMENT COMMITTEE

VOLUME TWO

APPENDICES
including
REPORTS OF DEVELOPMENT SUB-COMMITTEES

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INTERIM REPORT ON DEVELOPMENT

YOUR EXCELLENCY,

We were appointed by Government Notice No. 40 of 1945 with the following terms of reference:—

> "To prepare development plans for the Colony, taking into account the departmental and provincial plans prepared in response to Secretariat Circular letter No. 44 of 1944,"

and we now submit an interim report for Your Excellency's information and consideration.

2. Our objects in submitting an interim report at an early stage of our deliberations are two-fold. In the first place it seems to us to be desirable that the general public should be informed of the amount of planning which has already been carried out by the Government and that they should be given some idea of the magnitude and complexity of the task with which we, as a committee, are faced. Secondly, we feel that it is desirable to inform Your Excellency at this stage of the general principles by which we propose to be guided in framing a policy of development, and also to make certain recommendations which in our opinion, should be acted upon forthwith and should not await our final report.

CHAPTER I—THE PROBLEM

3. It became obvious to us that, as a committee, we must first decide on what was to be our objective and to devise a test against which we could consider any particular proposal, and also to decide what should be the yard-stick or measure which could be applied to judge in the future whether any progress had been made. This became more obvious when we found that we were confronted with a mass of definite proposals which had already been put forward and which, with the best will in the world, could not have been put into effect in their entirety during a limited period of five or even ten years. The Secretary of State for the Colonies, in Paper No. 3 on Colonial Affairs, has stated: "Planning and development can hardly be effected unless it is related to certain objectives". We were therefore strengthened in our view that it was necessary to define what our objective should be.

4. We consider that the first objective should be to use the natural resources of the country, including man power, in a manner calculated to increase the national income of Kenya in the shortest space of time so as to raise as quickly as possible the standard of living of the majority of the inhabitants, and we have decided that every scheme should be decided against this background. Any objective which is desirable in itself but which does not increase the national income in such a way as to increase the standard of living of the majority, should be examined most carefully to see whether the resources, financial, natural and man power, could not attain our objective if utilized in another way. In reaching this conclusion, we have had regard to what we conceive to be the main object of the Colonial Develop-

ment and Welfare Act. Again quoting from Paper No. 3 on Colonial Affairs, entitled "The Planning of Social and Economic Development in the Colonial Empire", the following passage is relevant:—

> "Improvement of the fundamental basis of Colonial communities is absolutely essential for their long-term development. It is not to-day the policy of H.M. Government that each Colony shall have only those economic and social services which it can afford from its own resources, and H.M. Government will be prepared to give generous assistance in improving general conditions. None the less, it would be quite impossible for the British taxpayer to assume the sole burden of raising Colonial standards of living or to continue indefinitely the subsidization of the greater part of the Colonial Empire on even a limited scale. The primary object of the assistance given by H.M. Government must be so to develop the Colonies that they can themselves pay for the services which local conditions may require. It is, therefore, of the first importance that attention should be paid first of all in the planning and development to the improvement of economic conditions and the increase of the real income available to Colonial communities."

5. In our view it is also important that the peoples of all races in the Colony should be associated with development and that it should be recognized that it is not sufficient for the Government alone to plan development. In some way or other we feel that all the inhabitants, black, white and brown—must play a part in the development of the country in which they live. By adopting the objective stated above, it will be possible for the Government to associate itself with the people of the territory in furthering development, and it will be possible also to see the directions in which it is desirable to proceed more rapidly than is possible from local resources and to obtain aid from outside in order to quicken the pace. Unfortunately, no assessment has been made of the national income and we regard it as of the utmost importance that an early attempt should be made to calculate the national income of Kenya. We realize that in the nature of things nothing more than an estimate is possible, but statistical experience in other countries indicates that it is practicable to frame such an estimate without any very wide margin of error.

6. We regard it as of the first importance that these statistics should be compiled. In the first place, they form a close index of the general level of the country's prosperity and therefore form a background against which the success or otherwise of development policies can be judged.

7. They are also of great importance in considering questions relating to the revenue and expenditure of the Government. It is not possible to form any opinion of value regarding the taxable capacity of the Colony unless the revenue from taxation can be compared with the national income. Again, the national income provides an appropriate yardstick which can be utilized to ensure the balanced development of social services generally, as clearly care must be taken to ensure that no service receives a disproportionate share of the total income. If for any reason no such limitation is desirable, then assistance must be sought from outside.

8. The present organization of the Statistical Department is divided into two broad classes: certain *basic* services, such as the compilation of a Year Book, the preservation of records and the machine compilation of statistics to meet departmental requirements, and *auxiliary* services which consist of services which can be provided by the Department at the request of any of the participating Governments. The fundamental distinction between basic services and the auxiliary services is that the former represent a minimum which could and should be maintained irrespective of the financial position of the Colony and the latter represent services which can be curtailed or expanded as required.

9. We strongly recommend that the compilation of statistics relating to the national income should be classified as a basic service and should be continued from year to year without regard to booms or depressions.

10. We have discussed with the Director of Statistics the methods by which estimates of the national income can be prepared. It is clear that the preparation of a reasonably accurate estimate will present considerable difficulty owing to the existence of a large number of petty traders and peasant producers. We are satisfied, however, that those difficulties can be overcome as they have in fact been overcome in other countries with similar problems, notably in India. It is clearly desirable that the statistical organization in East Africa should be in a position to take advantage of experience gained in that country, and accordingly we recommend that the Director of Statistics should pay an early visit to India to ascertain in detail the methods adopted in that country and study the possibilities of applying them to East African conditions.

11. We wish to take the opportunity to make certain general observations on the subject of statistics. It is not in fact possible adequately to plan development and welfare policies without reasonably adequate and reasonably accurate statistical data and such data are conspicuously lacking in East Africa. There are, for example, no recent statistics of census. The last census was held in 1931; the figures of native population compiled then were largely in the nature of estimates and no reliable information regarding subsequent rates of birth or mortality exist. Any estimate of the native population in any district or area is accordingly entirely in the nature of a guess.

12. We consider that a general census should be held as soon after the termination of hostilities as it is possible to make the necessary arrangements.

13. The two main factors in the national income are the natural resources of the country and labour. We propose in the next two chapters to examine these two factors in some detail.

CHAPTER II—NATURAL RESOURCES

14. The principal item in the natural resources of Kenya is the land, and in this term we include the Colony's mineral resources. It seems to us that our major objective must clearly be the preservation and the wise use of this most important asset. We consider that it is of fundamental importance that the land should not be regarded as owned by several million

individuals, each with his patch, large or small, which he is at liberty to destroy or develop as he thinks fit, but as something which is in a very real sense the property of the community as a whole and which the individual landholder, black, white or brown, holds in trust for his community. It is at once a heritage and a legacy—a heritage from the past and a legacy to the future—and the principle should be accepted that individual ownership rights should extend only as long as the owners are in beneficial occupation of their holding. This principle has already been accepted to some extent in the case of the Highlands by the enactment of the Land Control Bill and will be extended further if the settlement schemes at present under consideration are approved in the form recommended by the Settlement Schemes Committee. We feel strongly, however, that, difficult though it may prove, it should be extended to the native areas and that the African landholder should be led to regard himself as the tenant of his tribe, and the tribe as a corporate body with powers to enforce the proper use of land with the final sanction of eviction. This represents in some ways a new conception of the use of African land. Such a new conception is necessary because the present position in African areas results from conditions under which the supply of land exceeded the demand because the demand for land in the past was limited; it was reasonable and natural that it should be used only for subsistence farming by methods of shifting cultivation. Conditions have now changed. The population has increased and is increasing as a result partly of the "Pax Britannica" and partly of the provision of health services which have reduced mortality, particularly infant mortality, in many areas. Concurrently with these changes Native Land Units have been demarcated and definite limits thus set to the land available for African cultivation. Moreover pressure on the land has increased immeasurably because of the demand for cash crops, and also because the advent and expansion of trade in the presence of supplies of consumer goods has stimulated the demand for cash. In these circumstances, we recommend that the new conception of the use of African land which we have indicated should be the subject of consistent propaganda not only at barazas throughout the country but in all schools, and that steps should be taken to see that all administrative officers are aware that this is a part of the Government's policy and that it is their duty to prosecute that policy actively and at all times. Unfortunately, much of the land has been so misused in the past that some may have been irretrievably ruined and in our view one of the most important steps to be taken is to quicken the pace of the reclamation and rehabilitation of those lands which are not irretrievably ruined. We realize that the Government has already recognized the great urgency of dealing with the situation which has thus arisen, but it is clear to us that reclamation and rehabilitation of native lands may involve as a corollary some re-allocation of lands. It will certainly involve the re-settlement of large numbers of Africans in areas which are at present sparsely populated or even completely uninhabited. We are conscious that there may be considerable opposition, particularly on the part of the African communities, to re-settlement on these lines, but we cannot underestimate the absolute necessity for drastic action if the existing assets of the Colony are to be preserved. There are a number of areas which appear to be suitable for African settlement on a fairly large scale, but little is known of their actual resources. In almost every case the presence of tsetse fly prevents the maintenance of live stock, without which no sound farming system is possible. Water resources have to be proved. All this investigation will necessarily take time. We consider that it should cover, *inter alia*—

(*a*) possibilities of water development;

(*b*) the best means to eradicate tsetse fly;

(*c*) the set-up of the area from a health point of view;

(*d*) the suitability of the soil from the standpoint of agriculture;

(*e*) the carrying capacity of such grazing as is or can be made available;

and, in our opinion, investigation of the type indicated should be undertaken now despite the acute shortage of man power. We wish to stress that the various lines of investigation cannot be regarded as final and due regard must be paid to each factor in investigating the others. For example, it is idle to investigate the agricultural possibilities of land if water is unlikely to be obtainable in the vicinity. We have, therefore, reached the conclusion that the most satisfactory method of dealing with the matter is by the immediate appointment of an investigating team and we so recommend. In our view the team should consist of a Senior Administrative Officer as chairman, who should be responsible for the day-to-day guidance and planning of the activities of the other members, a hydrographic surveyor, an agricultural officer, a soil chemist, a tsetse expert, and a medical officer. We consider that they should remain in each area for a period sufficiently long to enable a full, detailed scheme of settlement to be prepared if, as the result of their preliminary investigation, it is likely that settlement is feasible. This proposal would have the additional advantage that the experience gained by members of the team in each area would stand them in good stead as their investigations continue.

We wish to stress the fundamental importance of the investigation into the availability and conservation of water. Without water, development of any kind is obviously out of the question and information regarding the availability of water supplies in possible settlement areas is sadly lacking. We are aware that efforts are being made to obtain the services of additional hydrographic survey staff, and we trust that they will be successful.

15. We take this opportunity to make certain observations on the subject of water generally. So far as is known, Kenya must be regarded as a poorly watered country, and it is therefore clear that every possible step must be taken to make the maximum use of such supplies as are available if the country is to make any real progress. The provision of hydro-electric power, the development of secondary industries, and the expansion of scientific farming, and indeed the proper utilization of the Colony's land resources, must depend to a great extent on water. Much valuable experience in the harnessing of water for development purposes has been gained in other territories, particularly in the United States of America, where the achievements of the Tennessee Valley Authority are matters of common knowledge. We feel convinced that Kenya ought to take full advantage of this experience,

and we accordingly recommend that the Government should take steps to secure an experienced Water Engineer from the United States of America on an agreement for a period of, say, three years to advise on the methods by which the maximum use can be made of our water resources. Such a man would no doubt be expensive, but we consider that, in view of the vital importance of this matter, any sum which it might be necessary to pay would be well invested. We also consider that such an appointment should be made at once. Any such investigation will take time and this is a matter which brooks no avoidable delay. We wish to make it quite clear that this recommendation casts no reflection on the efficiency of the hydraulic branch of the Public Works Department, which has done much with very limited staff and financial resources. Our object in making it is simply to ensure that the valuable experience available shall be at the disposal of the Colony at a time when it is most needed. In making this recommendation we are not unmindful of the fact that funds have already been made available from the Colonial Development and Welfare Vote for an approved programme of water development. That programme seems to us to be soundly conceived and calculated to increase the Colony's development considerably. It should be carried on and we consider that the advice of the officer whose appointment we have recommended would be of the greatest value in carrying it out, though primarily his duties would be to advise on the possibilities of major hydraulic development.

CHAPTER III—PEOPLE

16. Turning now to the other important factor in the national income, i.e. the people, there seems to us to be little doubt that the most fruitful field for increasing the national income is the output of the inhabitants of the Colony. Modern civilization demands obligations from its citizens. It used to be said that there was no room in a modern state for the idle rich. To-day there is no room for either the idle rich or the idle poor, and the policy of a modern Government must, in our opinion, be the positive policy of employment for all, that is to say, that all must work. A freedom of choice must be allowed as to whether the citizen should work for himself or work for others, but there is no doubt that if we are to achieve any success in the development of the Colony, all must work and, in our opinion, the Government should unhesitatingly accept this policy and should instruct all administrators to push it with the greatest vigour. There must be a constant and determined effort by all, aided by propaganda, etc., to explain to all the inhabitants, including the Africans, that the only sound way to economic and political independence rests in the main with the people themselves, and that it is fatal to rely on free gifts, subsidies, etc., from outside. It should be made clear that there is a social stigma resting on those who do not make a contribution to the development of the State.

17. In a policy of increasing wealth the most important factor in a nation's productivity must be the output per head of the population and, in our opinion, every effort should be made to increase this output to the maximum. It may well be that as supplies become easier this output can be increased by greater use of machinery and every opportunity should be taken

to secure an increased output by this means. Also, every economic inducement should be utilized to divert man power into the channels which will facilitate the maximum output and the maximum contribution to the national income. There is reason to believe that at the present time the output per head of the population is falling, and we cannot too strongly emphasize the necessity not only to arrest that fall, but to make a positive step forward in the increase of output per head. It should be regarded as a prime duty of all administrative officers to inculcate the importance of this factor in raising the national income.

18. It is fully realized that the people cannot make a full contribution to output unless they are healthy and sufficiently well educated to understand the issues at stake. Health measures alone are insufficient. They must be preceded, accompanied and followed by education. At the present time we are faced with a natural ripening of social, political and economic problems, particularly on the part of the Africans, which ripening is taking place at a forced pace due to a variety of circumstances. Changes which, in the past, might have been spread over generations can and do occur within the limits of a lifetime and it seems to us that that is happening now. The elimination of inter-tribal warfare, coupled with the provision of such health services as it has been possible to provide, has led to a marked growth in the African population. Similarly the reduction in the incidence of various stock diseases by modern scientific methods has been one of the causes leading to an increase in the stock population.

19. Social adjustment has obviously lagged behind these various changes and it seems to us that unless the African population can be taught to appreciate what is happening, there is a real danger of social upheaval, and what seems to us even more important is that it is essential that development and rehabilitation measures carried out by the Government or by private enterprise must, to be successful, carry with them the full understanding and co-operation of the African community as a whole. The objectives, and the means of attaining those obectives, must be such that the people can understand them and we consider that education, not only in the sense of literacy, but in the broader sense, is essential to secure that understanding. Accordingly it is our intention to submit proposals for the expansion of both education, including vocational and agricultural education, and health services for the African community.

CHAPTER IV—CERTAIN INTERIM RECOMMENDATIONS

20. Having examined two of the principal factors in the national income, we now wish to take the opportunity to make certain observations on the question of the marketing and prices of primary products. There is little doubt that the prosperity of this Colony must, for some time at any rate, depend largely upon agriculture and, therefore, on the prices received by primary producers in respect of their produce. If fair prices are paid, there is little doubt that the national income can be raised to such a level that it can ultimately provide the means for the long-term economic and social services necessary for the welfare of the people of the Colony. If on the other

hand, the prices received by primary producers are insufficient to cover the cost of production and to provide a reasonable though not excessive margin of profit, there is little hope of ultimate progress. The question of marketing arrangements, both in the Colony and, in the case of produce exported from the Colonies, overseas, is therefore one of vital concern to all who have the future of the country at heart. It is also equally important that there should be some stability in the prices paid to producers. We do not here propose to recapitulate the arguments in favour of bulk purchase of Colonial produce by a purchasing organization in the United Kingdom by arrangements under which a fair return to the producer is assured, providing for the elimination of speculation and the utilization of normal channels on reasonable terms. The arguments have already been set forth by Your Excellency in a memorandum written from another Colony. The issues involved are issues that cannot be settled by the Government of Kenya, but we do consider that no opportunity should be lost to impress upon the Secretary of State and his advisers the fundamental importance of a decision on this question.

21. We have laid stress on the importance of adequate export prices and for reasons which will be given later, it is clear that the Colony's economy must be based to a large extent on the export of its produce. Marketing arrangements of the type envisaged (which, incidentally, are in fact in operation now) will not and cannot provide a complete solution for three reasons. In the first place, any organization in the United Kingdom for bulk buying implies a corresponding organization in East Africa for bulk selling. Secondly, a local organization for bulk selling may, in certain cases, be desirable irrespective of the nature of the organization set up in the United Kingdom. As an example we would quote the case of the pig industry, where there is the possibility of the export of considerable quantities of frozen carcasses which are not likely to realize as favourable a price as pig products marketed for local consumption. It is accordingly desirable, in the interests of the pig producers, that a pool should be formed and to which the loss on the export of pig produce would be set off against the profit on local sales. Thirdly, a bulk selling organization in respect of any product is usually in a more favourable bargaining position than would be the case if the product were being marketed by numbers of individual exporters. For these reasons we consider that bulk selling organizations are fully justified in connexion with most types of Colonial produce and we suggest that the following policy (for which we are indebted to the Chairman of the East African Production and Supply Council) should be strongly recommended to the other East African Governments:—

(*a*) that, in the case of non-native production, the East African Governments, on being satisfied that it is the wish of the majority of the producers in any agricultural industry, should be prepared to promote similar legislation to provide for the collective marketing of the product concerned on an East African basis under the control of a Board appointed by the producers with such Government participation as may be appropriate in each case; and

(*b*) that in the case of native production, where the Governments are satisfied that collective marketing is in the interests of the producers, similar legislation should be enacted providing for collective marketing under Government control with such participation by representatives of the African producers concerned as can appropriately be arranged in each case.

22. We do not wish to imply that the adoption of any such policy should have the effect of excluding trade interests. On the contrary, we would regard it as essential that in the preparation of schemes suitable for each industry due regard should be paid to the legitimate claims of trade interests with a view to utilizing experience and enterprise to the full on reasonable terms.

23. We suggest that the arrangements made in connexion with each industry should be self-contained, but that the operations of all should be concentrated as far as possible in one central office with a common secretariat, as such a secretariat should gradually accumulate valuable experience and should be able to bring influences to bear in directing economic development to an extent far in excess of any statutory powers which the office might possess. Moreover, it is clearly impossible to guarantee that the maximum potential output of every industry will be absorbed, and the existence of organized bodies representing producers would enable any restriction schemes which proved necessary to be planned equitably and efficiently. We do sincerely hope that in the future it will not be necessary to have recourse to restriction.

24. The legislation which we consider necessary to achieve the object we have in mind would comprise a series of enactments very much on the lines of the Pyrethrum Ordinance, 1938, which, according to our information, has worked smoothly and satisfactorily, although admittedly the industry has benefited from the acute demand for pyrethrum resulting from the war.

25. In certain cases it will be found necessary to apply legislation of the type envisaged to products for which there may be a considerable local market. In such cases it would abviously not be in the best interests of the Colony to endeavour to recover any loss on export by imposing an unfair burden on local consumers. Accordingly we suggest that in such cases there should be adequate representation of consuming interests on the boards dealing with the marketing of the various products falling into this category.

We commend the foregoing suggestions to Your Excellency's consideration.

26. In the examination of this question of marketing we have reached the conclusion that the main policy of Kenya must, for some time to come, be based on an export policy. It is a fallacy to assume that a high standard of living can be achieved by a policy of self-sufficiency. It is especially fallacious in a country not particularly rich in natural resources. So long as the people of Kenya require capital equipment, modern articles for household use, apparel, bicycles, motor cars, etc., these must be imported, and the only way in which these can be paid for is by exports. Broadly speaking, the main articles which Kenya can export are articles which can be produced as

cheaply, or more cheaply than in other parts of the world, and for the most part these comprise agricultural products. The main bias, therefore, of Kenya's economic policy must therefore be towards an export policy. This does not mean that there should be no industrialization.

CHAPTER V—THE PRESENT POSITION

27. We feel that there is some public misconception regarding the extent to which planning for post-war development has already been carried out. It is the case that the Government, in the midst of many other other preoccupations, has found time to devote much thought to this important matter and we attach a table* showing the various schemes which have already been approved for assistance under the Colonial Development and Welfare Act. In addition to these specific schemes, to which approval has been given, a number of schemes have been prepared and approval has either been sought or is about to be sought. A list of such schemes is appended.

28. We do not suggest that these schemes constitute a comprehensive programme, nor indeed has it been claimed that they do so. They do, however, constitute a framework which enables action to be taken as soon as the necessary staff and plant can be made available. It is our intention in the course of our investigations to bring each of these schemes under review with the object of determining whether revision is required in the light of changed circumstances, and it may be that we will suggest modifications in a subsequent report.

29. The fact that the schemes are being reviewed should not, however, provide justification for not putting them into effect if the necessary staff and plant can be made available. As mentioned earlier in the report, a massive collection of proposals covering the whole field of Government activity has been made and many of such schemes will not pass the test which we have suggested should be applied; but this does not necessarily mean that the proposals will be rejected out of hand or that the proposal is necessarily either undesirable or impracticable. It merely means that in our opinion they should not be accorded a place in a development programme.

CHAPTER VI—THE TASK

30. The proposals which are at present under examination by us involve, so far as we can ascertain, capital expenditure of the order of £18,000,000, with a very large increase in the Colony's recurrent expenditure. A summary indicating roughly how the sum of £18,000,000 is made up is attached to this report as Appendix III*. It will be realized that in some cases the figures shown are arbitrary as the amounts required cannot at this stage be estimated with any accuracy. It is clear that the preparation of plans based on these schemes will require very careful consideration. In several cases the proposals are technical in character and are not such that, as at present constituted, we are in a position to make authoritative recommendations. It is, therefore, our intention, with which we understand Your Excellency is in agreement, to appoint a number of sub-committees with co-opted members to report to us on various schemes, and we trust that by the adoption

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* Not reproduced.

of this procedure the most authoritative advice which it is possible to obtain will be available to Your Excellency. We would emphasize that the adoption of this procedure will doubtless result in some delay in the presentation of our final report, but we feel any such delay will prove to have been well worth while.

CHAPTER VII—CO-OPERATION OF THE PUBLIC AND OF GOVERNMENT OFFICERS

31. Earlier in the report we mentioned that it was essential that the people of all races should be associated with the Government in the development of the Colony. It is also, in our opinion, important that the expenditure and planning, both private and Government, should be so regulated as to avoid the extremes of boom and slump. To do this it will be necessary to seek, and if need be to enforce, co-operation from members of the public in the submission of various statistical information in connexion with their undertakings and professions. We propose to examine the forms of statistics which will be required, but we should like to take this opportunity of expressing the hope that the members of the public will co-ordinate willingly in the provision of the necessary information.

32. In submitting this interim report, we wish once again to stress that so far as we can see at present, it will be some months before our final recommendations can be submitted to Your Excellency, but we feel that the suggestions which we have already made should be put into effect as soon as possible, and that when the policy which we have outlined has been adopted, every effort should be made by propaganda, by education, and by any other means, to secure that that policy is fully understood by the people of the Colony, and that they realize that it is the intention of the Government that it is carried out. We would also emphasize that once a policy has been accepted, it is the duty of all Government officers to accept it and to take positive steps to promulgate it to the best of their ability.

33. We wish to acknowledge the valuable work carried out by our Secretary, Mr. Hyde Clarke, particularly in connexion with the preparation of the appendices to our report.

SUMMARY OF RECOMMENDATIONS

I. That statistics of the national income should be compiled regularly and that such compilation should be regarded as a basic statistical service. (Paragraph 9.)

II. That the Director of Statistics should visit India as early as possible to study the statistical methods adopted in that country. (Paragraph 10.)

III. That a general census should be held as soon as possible after the war. (Paragraph 12.)

IV. That constant propaganda should be undertaken in native areas to spread the doctrine that African landowners are tenants of the tribe. (Paragraph 14.)

V. That an investigating team be appointed to investigate the suitability of various areas for African re-settlement. (Paragraph 14.)

VI. That the Government should take steps to secure an experienced Water Engineer from the United States of America. (Paragraph 15.)

VII. That constant propaganda should be undertaken to emphasize the necessity of each individual by his work contributing to the development of the State. (Paragraph 16.)

VIII. That every opportunity should be taken to emphasize to the Secretary of State the fundamental importance of maintaining the prices of primary products at a reasonable level. (Paragraph 20.)

XI. That bulk selling organizations should be maintained after the war in connexion with various types of Colonial produce. (Paragraph 21.)

I have the honour to be
Your Excellency's obedient servant,
J. F. G. TROUGHTON, *Chairman,*
for and on behalf of the Committee.

E. M. HYDE CLARKE, *Secretary.*
4th April, 1945.

Appendix 2

SESSIONAL PAPER No. 2 of 1945

COLONY AND PROTECTORATE OF KENYA

LEGISLATIVE COUNCIL

INTERIM REPORT ON DEVELOPMENT

The Government has given preliminary consideration to the recommendations contained in the Interim Report on Development which was published recently and was laid on the table of the Legislative Council on the 1st of May.

The Government has the following observations to make on the recommendations, subject to the reservation that in some cases expenditure is involved for which the concurrence of the Legislative Council will be necessary before action can be taken:—

Recommendation I.—That statistics of the national income should be compiled regularly and that such compilation should be regarded as a basic statistical service.

This recommendation has been referred to the Director of Statistics who has been requested to submit detailed proposals as soon as he is in a position to do so.

Recommendation II.—That the Director of Statistics should visit India as early as possible to study the statistical methods adopted in that country.

The Government accepts this recommendation and the concurrence of the other Governments concerned is being sought.

Recommendation III.—That a general census should be held as soon as possible after the war.

The Government accepts this recommendation, but, in common with the Governments of Uganda and Tanganyika, considers it desirable that the census should be conducted on an East African basis as soon as possible after the cessation of hostilities. Detailed proposals have been submitted to the East African Governments by the Director of Statistics and a conference is to be called later in the year to discuss Group Captain Walter's proposals.

Recommendation IV.—That constant propaganda should be undertaken in native areas to spread the doctrine that African landowners are tenants of the tribe.

The Government accepts this recommendation. It regards its responsibility for land administration as an overriding one to which indigenous systems of land tenure must conform. That responsibility implies that, as agent and trustee for the people in the various land units, the Government has an obligation to ensure that the land is used in a manner which will preserve its fertility. The Government considers that each Native Land Unit and, in certain cases, each division of a Native Land Unit must be regarded as an estate, the property of the native community to which it is assigned. In most cases the native community is at present neither sufficiently organized nor sufficiently well instructed to be either willing or able to maintain its estate in accordance with the principles of prudent agriculture in the widest sense. The Government, having in mind that willing collaboration is nearly always more effective than compulsion, regards it as one of its main tasks to assist and instruct each African community in the proper use of its land until it understands the vital importance of its responsibilities in this respect and is equipped to discharge them. The Government recognizes that the conditions of occupation of land must include a condition that the land is not destroyed and that in extreme cases compulsion may have to be used as a temporary expedient.

Recommendation V.—That an investigating team be appointed to investigate the suitability of various areas for African resettlement.

The Government accepts this recommendation and steps are being taken to form the suggested team as soon as possible. A senior Administrative Officer has already been selected for the Chairmanship.

Recommendation VI.—That the Government should take steps to secure an experienced Water Engineer from the United States of America.

The Government has not yet reached a decision on this recommendation, and is in any case unwilling to commit itself to any particular source of recruitment in a matter in which professional qualifications and experience must be the decisive criteria. The Government does, however, agree that the best staff available must be engaged for the vital work of water conservation. The East African Governors' Conference has agreed to engage a high grade team of experts to investigate the possibilities of electric power development in East Africa, and the Government has already secured the services of a prominent consulting engineer from the Union of South Africa to investigate the possibilities of developing greatly increased water supplies from the rivers rising on the eastern slopes of the Aberdares and Mount Kenya. These investigations will be co-ordinated.

Recommendation VII.—That constant propaganda should be undertaken to emphasize the necessity of each individual by his work contributing to the development of the State.

The Government accepts this recommendation. In so far as paid Government labour is concerned, steps are being taken to improve output by providing closer supervision and better living conditions. Methods of propaganda among native communities will be examined by the Chief Native Commissioner and Provincial Commissioners.

Recommendation VIII.—That every opportunity should be taken to emphasize to the Secretary of State the fundamental importance of maintaining the prices of primary products at a reasonable level.

The Government accepts this recommendation.

Recommendation IX.—That bulk selling organizations should be maintained after the war in connexion with various types of Colonial produce.

The Government is arranging for a special study to be made of this matter and of the organization necessary to deal with each type of product. An endeavour is being made at the present time to obtain an Economic and Commercial Adviser from London, and this question will be among the first referred to him upon arrival in the Colony.

THE SECRETARIAT,
NAIROBI
16*th May*, 1945.

Appendix 3

REPORT OF THE JOINT AGRICULTURAL AND VETERINARY SERVICES SUB-COMMITTEE OF THE DEVELOPMENT COMMITTEE

To The Chairman, Kenya Development Committee.

1. The importance of agriculture in the economy of Kenya has been stressed in the Interim Report of the Committee, and it is unnecessary for us to elaborate the matter here. The plain fact is that in present circumstances the national income of Kenya depends very largely on agriculture, either directly or indirectly, and whatever industrial development may take place—and we are convinced that industrial development is necessary and must be fostered—the prosperity of Kenya for many years to come will depend mainly upon agriculture. In the term "agriculture" we include animal husbandry and the utilization of land generally.

2. The subject of agriculture is vast and its ramifications many. But no system of agriculture, other than primitive subsistence agriculture, can be successful or even survive unless there is a sound system of marketing the produce of the land which will provide a reasonable return to the primary producer. On this the whole development of the country, including all necessary expansion of social services, must hinge. The Interim Report quotes in paragraph 4 from an official Colonial Office document on planning the following sentence: "The primary object of the assistance given by H.M. Government must be so to develop the Colonies that they can themselves pay for the services which local conditions may require". That implies an increase in taxable capacity, but it is obvious that there can be no increase in taxable capacity, indeed taxable capacity cannot even be maintained, unless the primary producer is assured of a reasonable return in respect of his produce. Unless such a return can be assured, we do not feel that we can recommend that any substantial expenditure on increased social services should take place. Any recommendations which we may make in this Report must be regarded as contingent on a favourable decision on this most important question.

3. The Interim Report has made it clear that Kenya must be dependent to a large extent on an export policy for at least a number of years to come, and it follows that the price received for primary or secondary produce exported from the Colony is of major importance. It seems to us that what is required is the bulk purchase of Colonial produce by a purchasing organization, or organizations, in the United Kingdom, thus eliminating speculation while providing for the utilization of normal channels on reasonable terms. This, in our opinion, is a practicable alternative to a policy of complete *laissez-faire*. *Laissez-faire* has in the past led to disastrous slumps, with consequent retrenchment and curtailment of services, to the most grave hardship in individual cases, to the misuse of land, to bankruptcies and to crime. If history is to be allowed to repeat itself and if primary producers are to be at the mercy of speculators in the world markets, then it is idle, in our opinion, to talk seriously of assisting the Colonies to enable them to stand on their own feet and provide from their own resources the administrative, economic and social services which they require.

4. In the Interim Report it was recommended that no opportunity should be lost to impress on the Secretary of State and his advisers the fundamental importance of a decision on this question, and we realize that every opportunity is being taken. So far we have had no indication that the representations made by East Africa, or by any other Government, have resulted in any positive decision in London.

5. Apart, however, from the prices paid to producers in respect of produce exported from the Colony, it is in our view essential that there should be an adequate and sound system of internal marketing in the Colony, both in respect of products which are exported, those which are consumed locally, and those which are partly exported and partly consumed locally. In the Interim Report (paragraphs 21 to 25) we have advocated a certain broad policy and we adhere to that recommendation. We understand that the Government is arranging for a special study to be made of this matter and of the organization necessary to deal with each type of product. We would urge that that study should be pressed on with all possible speed in order that the transition from the present war-time arrangements to whatever permanent arrangements may be thought most suitable may be achieved as smoothly as possible.

6. There are, however, two matters to which we wish to invite particular attention, namely, the marketing of native produce generally and the marketing of live stock. As regards the former, we feel that the appropriate line of development is by the encouragement of native co-operative societies where producers act in concert to obtain the maximum benefit for all. As a result of a visit by an officer with great experience of co-operative societies in other countries, a new Co-operative Societies Bill has been introduced into the Legislative Council and has now become law. The enactment of such an Ordinance does not, however, mean that co-operative societies will instantly come into being, as much preliminary work will be necessary. An appointment to the post of Registrar has now been made and the officer concerned will take up his duties shortly.

7. However competent, patient and industrious the new Registrar may be, it will obviously be some years before co-operative societies are formed throughout African producing areas. In the meantime interim arrangements must be made which will as far as possible control the margins retained by the various middlemen who deal in primary produce under the ordinary peacetime commercial system.* These margins have in the past varied in accordance with circumstances and have been based, except during the war period, on the ordinary operation of supply and demand. Until co-operation has developed, conditions are such that the bulk of the produce of the native areas must be disposed of in direct transactions between individual producers and petty traders, and the producer is to some extent at the mercy of the trader. Much can be done, however, to assist producers in these transactions. For example, it should be possible for producers to be kept informed through official channels of the trend of prices generally and, in particular, for them

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* The Director of Agriculture does not feel that he can subscribe to this suggestion as he considers that attempts at control often result in higher margins, not lower.

to be warned that they would be ill-advised to dispose of their produce at anything less than a particular price. If heed is given to warnings of this character, then doubtless traders who are not prepared to pay the price indicated would justly be subjected to boycott.

8. The trouble in the past, as we see it, was that there was no one officer appointed to co-ordinate or to initiate action on these lines, such action as has been taken having been effected by agricultural and veterinary officers to the detriment of their normal duties. We accordingly recommend the early appointment of a Native Marketing Officer to the staff of the Member for Agriculture, Animal Husbandry and Natural Resources, who would be charged with the duty of keeping a careful watch on the prices received by Africans for primary produce of all kinds and of issuing such directions as he considered appropriate. He should have the benefit of the advice of a Marketing Sub-committee of the Central Board of Agriculture, which should be charged with advising on marketing policy generally, and on which there should be adequate representation of agricultural, commercial and consuming interests. It would be essential that such an officer should travel extensively.

9. Such an officer should, in our opinion, be well paid as his responsibilities would be great and work carried out by him efficiently should have a substantial effect on the prosperity of African producers. An appropriate scale of salary would be £880 by £40 to £1,000 on the assumption that the officer is appointed on the 1/600th pension constant. In view of our recommendation in the previous paragraph, expenditure on travelling will necessarily be heavy. Appendix A to this Report gives a rough estimate of expenditure likely to be incurred over a 10-year period if this officer is appointed.

10. Live stock marketing presents special features of importance. In the first place, the necessity for ensuring that the numbers of stock grazed in the native areas are correlated to the carrying capacity of the land requires no emphasis from us. It has been stressed in reports of many committees and has been the fundamental justification for action taken by the Government from time to time in regard to the control of grazing and the compulsory culling of live stock. It has equally been established beyond doubt that the physical qualities of the African inhabitants of the predominantly agricultural areas have suffered seriously through a lack of animal protein and a lack of calcium because they have not been able to secure adequate supplies of meat or milk. The deficiency of animal protein has become accentuated during the past few years, since the demand for meat has been greatly increased by the presence of an abnormally large population in the Colony, resulting in an acute shortage which has necessitated a strict rationing of the supplies made available to butchers.

11. It seems to us that during the post-war period active participation by the Government in the marketing of live stock is necessary if, on the one hand, the stock population of the pastoral and semi-pastoral native areas is to be adjusted to the farming requirements of the land, and if, on the other, those who need meat as part of a balanced diet are to obtain their requirements. Organized live stock marketing will become a factor of even more vital importance if the introduction of the control of tick-borne diseases in native

areas, which we recommend in paragraphs 78 to 90 of this Report, results in any marked decline in the rate of mortality amongst calves. From whatever angle the problem may be viewed, the great importance of a proper system of the marketing of live stock is obvious.

12. During the war the functions of live stock marketing have been carried out by the Live Stock Control organization, which has worked partly on the basis of the application of compulsory quotas of stock to be supplied by each native area each year, and partly by requiring all European-owned slaughter stock put on the market to be disposed of through the Control. This system, according to the information made available to us, has worked with comparative smoothness, although from time to time administrative difficulties have arisen. It has, incidentally, had the advantage of stabilizing the prices of live stock sold on the market to the producer at reasonable levels and also of avoiding any spectacular increase in the price of meat to the consumer. We regard this as a matter of the first importance and we consider that it would be useless to introduce any system of the marketing of live stock after the war which would result in producers, particularly African producers, receiving prices out of proportion to the real value of their stock, with the consequent result that the price of the resultant meat would be placed beyond the means of the great majority of potential consumers.

13. The price to the producer must, of course, be fair and must be recognized to be fair. This result can in our opinion, best be achieved by the payment of fixed prices based on the weight and grade of each beast sold. At present weights are assessed by visual inspection as weighbridges are not available. This is unsatisfactory for the producer who cannot see for himself how the price of his beast is assessed, and also for the Live Stock Control buyers as it introduces an element of error which may seriously affect their accounts.

14. These unsatisfactory features can, we suggest, best be overcome by the use of dial weighbridges. Admittedly, they are more expensive than ordinary weighbridges, but the extra expense is, in our opinion, well worth while in that ability clearly to see the result of weighing should inspire confidence in the scheme.

15. The necessity for the imposition—in certain areas at least—of compulsory quotas will entail the enactment of legislation, and we recommend that legislation should be prepared and enacted as soon as possible, providing for an organization somewhat on the following lines:—

(*a*) A Live Stock Marketing Board should be appointed which would be a body corporate with power, *inter alia*, to appoint and employ such officers and servants as it thought necessary.

(*b*) Provision should be made for the establishment of special markets to which quotas of slaughter live stock should be brought for sale on specified dates. The quotas would be fixed by the Board after negotiation with the Administration.

(*c*) In native areas the aim will be that all transactions in connexion with slaughter stock should take place at gazetted stock markets only.

(*d*) Stock sold at such markets would be graded on the hoof and sold by weight at a fixed price per pound live weight for each grade, less a deduction to cover measles risk, utilizing dial weighbridges. The prices applicable to each grade would be fixed by the Live Stock Marketing Board and would be prominently displayed at each stock market. They would not necessarily be the same for all districts, owing to variations in measles risk and transport charges.

(*e*) Local butchers in the reserves and butcheries not situated within a reasonable distance of a constituted abattoir, would each be granted a quota of live stock based, in the first place, upon past performance and subsequently on supply and demand. In each case the quota would be fixed by the Board.

(*f*) The surplus would be taken over by the Board for distribution to markets situated in areas where consumption exceeds local production and for removal to a central abattoir and refrigeration plant to supply urban demands or the needs of such native areas as could most conveniently be served by means of refrigerated supplies. The balance would be sent to Liebigs' factory.

(*g*) The lower grades of cattle, including culls, should be sold to the Liebigs factory, and prices should be based upon the returns derived from the processing of these animals, much in the same way as the prices charged for bully-beef are fixed by the military financial authorities, i.e. on a basis of cost plus profit. In this instance, the method would be inverted, in that it would be the value of the finished products that would determine the price that should be paid for the cattle.

(*h*) European-owned cattle would be sold to the Board at equivalent prices, grade for grade, through arrangements made in consultation with the Stockowners' Association.

(*i*) Effective control of retail meat prices in the native areas should be maintained.

16. An integral part of these proposals is the provision of a central abattoir and refrigeration plant which should, we suggest, be situated in Nairobi. It is probable that after the war the combined civil requirements of Nairobi and Mombasa will be of the order of 20 to 25 thousand head of native cattle and 60 to 80 thousand sheep and goats a year. Cold storage is necessary if a steady supply of animals in good condition is to be provided throughout the year, since native live stock varies greatly in condition with the season. In the dry weather the cattle from most of the pastoral areas lose heavily in weight and deteriorate greatly in quality. Buying must, therefore, be largely seasonal. Grade cattle are also affected by seasonal variations. The provision of adequate supplies of slaughter stock in good condition for Mombasa is in most seasons an impossibility, since in dry weather travelling stock have to cross huge arid tracts of land from the Northern Frontier District, and in the rains they are exposed to floods and attack by tsetse fly. Wastage from condemnations for measles reached a high level during the years

immediately preceding the war and, in the opinion of the Director of Veterinary Services, the weight of meat lost from this cause could be reduced by at least 75 per cent by the simple process of freezing the affected carcasses—a practice that has already been successfully introduced in Mombasa. Moreover, the institution of a safe, i.e. a properly inspected and, where necessary, refrigerated, meat supply for large consuming areas, such as the Kikuyu districts, would help to control tape-worm infection in Africans in these areas. For these reasons we are convinced of the necessity for a central abattoir, which should be constructed by the Government and maintained by the Live Stock Marketing Board. The cost of such an abattoir would probably be of the order of £50,000, possibly even more, but interest and redemption charges and the cost of administration could and should be recovered by the fixation of the prices paid by the Board at levels to allow a sufficient margin to meet these charges. In order to ensure a speedy transition from the present war-time system of live stock control to the post-war system of marketing which we advocate, we recommend that steps should be taken to construct a central abattoir forthwith. As will be seen from Appendix B to this Report the capital cost of the central abattoir is estimated to be £50,000.

17. We are aware that the system of compulsory marketing which we advocate may well give rise temporarily to difficulties in certain of the native areas, but have no doubt that the system, if introduced with tact and administrative skill, will prove effective. It would eliminate the independent itinerant stock trader in native areas. Indeed, such traders have in fact been eliminated to a very great extent by the war-time arrangements followed during the past few years. That elimination is of small account when set off against the advantages, which include—

(*a*) the adjustment of off-take to conform with the carrying capacity of the land;

(*b*) the provision of supplies of properly inspected and safe meat for areas where consumption demand exceeds supply;

(*c*) the arrangement for refrigerated supplies of meat during the dry months;

(*d*) the control of prices and the consequent improvement of nutrition;

(*e*) the control of movements between districts by a single responsible organization which would work in close collaboration with the Department of Veterinary Services in the matter of disease control;

(*f*) the reduction to a minimum of the margin between the selling price of live stock and the retail price of meat.

18. The organization of a controlled system of live stock marketing such as we have recommended must ultimately apply to all the meat-producing areas of the Colony and, in particular, to such pastoral areas as the Northern Province, the Masai, Samburu, Elgeyo and Marakwet, the Nandi, Suk and Kamasia districts. Care must therefore be taken to avoid the spreading of epizootic diseases by the continual movement of stock, and this will involve the provision of—

(*a*) an adequate fenced quarantine area at or near Isiolo;

(*b*) a fenced stock route of approximately 30 miles running from the boundary of the settled area on the Isiolo/Nanyuki road to railhead at Nanyuki; and

(*c*) a fenced stock route on the main road from the boundary of the settled area in the north to railhead at Thomson's Falls.

Rough estimates of the cost of these stock routes are given in Appendix C. It will be seen that a total capital expenditure of the order of £12,680 is involved. We wish to stress our view that this is necessary if the Northern Province is to make that contribution to the economy of the Colony which it is capable of making and which it should make if the well-being and prosperity of the inhabitants is to be regarded as a matter of prime importance.

NATIVE AGRICULTURE

19. In our opinion the most important domestic question affecting the future development of this Colony is the rehabilitation of the Native Land Units and the reform of native agricultural practice. These are not two separate questions but are one and the same, for unless native agriculture is based upon sound principles, the fertility of the land cannot be maintained and any expenditure incurred on reclamation would be a waste of public money.

20. It is unnecessary for us to describe in any detail the present stage of many of the Native Land Units because it is a matter of common knowledge. This is not to say that no action to arrest the position has been taken either by the Government or by individual officers of the Provincial Administration and the Department of Agriculture. On the contrary, much has been done through individual effort, and, in certain areas, under central direction. It is, however, fair to say that the general condition of the Native Land Units has been steadily deteriorating over a considerable period of years. That deterioration has gained in momentum during the last five years because of the accepted policy of the Government—a policy to which there was no real alternative in the circumstances. The policy in question was based on the acute shortage of shipping and the necessity to utilize all shipping which could be made available for operational purposes. In consequence, one of the greatest contributions which Kenya could make towards the war effort was to produce foodstuffs to the maximum extent possible in order that the population, including the large military garrison, could be fed on the produce of the country with the minimum importation. This policy was applied by the Government with the full authority of the Secretary of State, and the maintenance of fertility had of necessity to take second place.

21. The result has been a still further deterioration in the Native Land Units, particularly the agricultural native reserves. The war, however, has not been the sole cause of this deterioration. The population has continued to increase, although, unfortunately, no statistics or census are available to give a reliable indication of either the extent of the increase or the rate at which it is taking place. This increase in the population has resulted in heavy pressure on the land with, in many cases, subdivision and fragmentation of holdings far below levels which furnish any pretence of being economic units.

22. We take the opportunity to refer to the position of the Administration generally in this matter. On the face of it, the rehabilitation of land and in-

sistence on sound agricultural practice is a matter for the technical departments concerned, i.e. the departments of Agriculture and of Veterinary Services. The fact remains, however, that the only department with the authority to enforce, as opposed to the tendering of advice, is the Provincial Administration. Without driving force from the Administration no efforts by the technical departments concerned, however soundly based those efforts may be, can hope to achieve much. We therefore consider that the final responsibility for carrying out rehabilitation campaigns must be vested in the Provincial Administration and that the main responsibility of the technical departments must be to advise the administrative officers and assist them by all means in their power. The officers concerned would work as a team with District Officers, but the District Commissioner must be the captain of the team, direct its activities and ensure that all work together to achieve the common aim.

23. Very little is known about the indigenous systems of native land tenure. In some cases information has been collected by individual officers and missionaries who were interested in the subject and is to be found buried in the archives of district offices. Such information may well be out of date in present circumstances, as native land tenure is dynamic and not static. Inquiries into land tenure in certain areas have been carried out by special committees, e.g. in the Kikuyu Reserve some 18 years ago. The information available from these sources, whether out of date or not, is factual and academic in character and cannot be regarded as of great practical value except as a background for further study. It is only comparatively recently that the Government reached the conclusion that an up-to-date survey of native land tenure in the Central Province was necessary, not with the object of collecting information for information's sake, but to provide the background against which a policy for the enforcement of proper agricultural practices might be framed, and to enable present systems of land tenure to be adapted in such ways as would facilitate that enforcement. This decision is to be welcomed and we have no doubt that the report of the officer concerned, Mr. H. E. Lambert, will provide valuable guidance. It will, however, cover one Province only, whereas the problem of restoration of fertility and application of proper farming methods is one which exists in every land unit. We therefore consider and recommend that Mr. Lambert should carry out similar surveys in other areas, as we feel that the experience gained in the Central Province should prove of the greatest value. It is unfortunate that, so far as we are aware, there is no other officer in the Government service with a marked aptitude for this particular work.

24. Enforcement of proper methods of agriculture must, to a great extent, depend upon the size and configuration of individual, clan or communal holdings, and where holdings are such that they cannot form reasonably economic agricultural units, they must be altered.

Nevertheless it is clear to us that it will be a considerable time before sufficient information is available concerning the systems of land tenure in the different Native Land Units to enable the Government to formulate specific proposals for modifications. Meanwhile, unless action is taken, the situation in the areas concerned will continue to deteriorate. In these areas the Government is then faced with the dilemma of deciding whether, on the one hand, to await full information regarding land tenure and allow the land further to deteriorate, or, on the other hand, whether to ride rough-shod over the indigenous system in view of the paramount importance of the maintenance and restoration of fertility.

25. In considering this dilemma the Government is, we feel, bound to have regard to the interests of the Colony as a whole as against the interests of a number of relatively small sections of the community, and we consider that the Government must be prepared, if need be, to take the most drastic action by way of soil conservation measures and insistence upon sound agricultural practices, even though that may necessitate ignoring established and evolving systems of land tenure. In expressing this view we are not unmindful of the fact that to achieve the best results it is desirable to secure the greatest possible measure of native co-operation and that this can be obtained only through constant propaganda and education. In the nature of things, however, the dissemination of information among large native communities by means of propaganda and education must necessarily be a slow process, whereas the situation with which the country is faced in the Native Land Units will not brook delay. In our opinion action, and action on a comprehensive scale, is imperative and must take place simultaneously with the ordinary processes of propaganda and education. Even, however, if action on an intensive scale is taken and major soil engineering works are carried out extensively in those native areas where the need is greatest, any restoration of the land effected thereby will only be transitory unless it is followed up with the rigorous enforcement of sound farming methods in the day-to-day business of agriculture. Not only is the proper terracing of slopes a necessary step towards building up a sound soil structure, but it must be followed by manuring, the planting of grass leys and proper rotational grazing and cropping. This maintenance of the land can only be assured through close administration and by taking every possible step to secure the good will of the African population.

26. In considering the drastic action necessary to achieve the result at which we are aiming, it is necessary to point out in the first place that one of the main contributory causes of the present deterioration is the pressure of population and stock beyond the present, and in some cases the possible future, carrying capacity of the land. The remedying of this means that steps must be taken so to redistribute the African population that the density of population in each area will conform with its carrying capacity. This will give rise to problems of considerable magnitude as it will be necessary to take steps—

(*a*) to settle surplus elements of the population in new areas made available for the purpose;

(*b*) to provide employment in secondary industries; and

(*c*) to encourage the absorption of adult males in the labour market with proper housing and facilities for them to be accompanied by thei families.

This process will necessarily take time and will involve the solution of many difficult social and economic problems. There will, therefore, be a transition period and during that period it will clearly be necessary for the State to provide shelter and food for those who are unable to remain on the land they occupy at present but are not able immediately to obtain alternative employment. This fortunately should not be a difficult problem as there should be ample employment for all able-bodied men on soil conservation and betterment works in their own areas.

27. In the restoration of productivity to devastated native lands Kenya's most obviously urgent problem is the rehabilitation of the Machakos Reserve. If we are to believe the evidence given before the Carter Land Commission, the deterioration is a comparatively recent phenomenon and it must have progressed at an alarmingly rapid rate. Twelve years ago this, according to the Report of the Commission (§ 727, page 205), was the state of affairs in the Machakos Reserve: "The evidence before us shows that it is generally considered by those who are in the best position to know, that the area of the present native reserve is sufficient for the agricultural requirements of the people at the moment and in the immediate future; but it has been urged by the Provincial Commissioner that the more distant future needs of the district in this connexion require careful consideration." At that time it was estimated that approximately 140,000 acres was under actual cultivation with a further 70,000 lying fallow, representing about 15 per cent of the total acreage of the reserve from which, however, further deductions of 15 per cent to 25 per cent must be made on account of land uninhabited owing to the presence of tsetse fly. What proportion of the reserve acreage is really suitable for cultivation is unknown, but experience suggests that during the last 12 years there must have been a considerable increase in the cultivated acreage, with the result that much land that on a long view is quite unfit for cultivation, at any rate by the methods of the African peasant, has been brought under cultivation, with disastrous consequences to the land. The process seems to have been a cumulative one, gathering momentum each year, until in the last few years a climax has been reached, and the reserve during a succession of peculiarly unfavourable years has been quite incapable of feeding its population of some 235,000 to 275,000 souls.

28. The condition of the Machakos Reserve was also examined by Dr. Pole-Evans in 1939, and the following comments appear in his Report: "The reserve as shown to me was a most distressing sight. It was a shambles—the result of land mismanagement and misuse. Most of the top soil had gone and the subsoil was rapidly following suit. Sheet erosion and gully erosion were eating away the land in almost every direction. The grass cover had almost entirely disappeared and relics were to be seen only in spots where it had received some protection. Thickets of thorn and other unpalatable shrub were a feature on old worn-out lands and thornbush generally was invading the reserve.

"The underlying cause of this serious state of affairs in the Machakos is the continuous and ever increasing pressure wrought by man, beast, and termite on the grass cover. The destruction and removal of the grass cover has resulted in soil exhaustion, soil desiccation and soil erosion. Nothing but the complete restoration of the grass cover can bring about a permanent improvement in the situation.

"After seeing the state of affairs in the Kamba Reserve and the measures being taken to deal with this, I came to the conclusion that the present methods are not sufficient to cope with the appalling situation which has been allowed to proceed so far. The only method, in my opinion, which will bring about a speedy and effective recovery, is to take the reserve section by section, remove man and beast, remove as much thorn bush as possible, tackle the termites and allow the land and vegetation a complete rest. The waste thorn bush can possibly be used to considerable advantage in filling up gullies and along contours, where it will aid considerably in trapping the necessary soil and so establish natural grass regeneration and grass nurseries."

29. As the report of the Carter Land Commission remarks, the Kamba are partly a pastoral tribe and partly agricultural. The average density of population in the Reserve is to-day estimated at from 125–130 per square mile, which at a glance is patently too high to enable any large proportion of the population to subsist by pastoral pursuits alone. Yet the bulk of the Reserve is probably quite unsuitable for anything but grazing, although as we have already stated, the actual proportions of arable and grazing land are still unknown. The inhabitants own live stock probably to the tune of some 150,000–200,000 head of cattle, plus an unknown number of small stock (sheep and goats), although it is likely that much of the live stock has been boarded out in European farms and in such areas as the Yatta Plateau, the Kitui Yatta, the Kikuyu Bl. area and the Simba area. No recent stock census has been taken, and the disposition and composition of the flocks and herds is not known. In the absence of any reliable data regarding the proportions of arable and grazing land, the numbers of live stock and their distribution both among the population and geographically, and the disposition and acreage of present-day cultivation, it is impossible to discover even the bare premises of the problem with which one is faced, and one may be driven to put forward solutions that are directed merely towards the redress of such apparent evils as gullying, surface erosion of cultivable lands, or trampling of grazing in the vicinity of permanent water supplies. Vast sums of money might be spent on soil engineering works without any realization of the fundamental causes underlying what, after all, are largely localized phenomena.

30. To approach the problem as one of simple mathematics along the lines that 250,000–275,000 people possess, say, 200,000 head of cattle and perhaps 500,000 head of small stock and that a family of five requires, say, four acres of cultivation and a minimum of four head of cattle, which at an average carrying capacity of 15 acres per head of cattle means 65 acres per family, and that accordingly X acres must be added to the reserve to meet the needs of the people, can only be misleading. The number of people that any stretch of land can support is determined by the climate, the nature of the soil, its state of fertility, and the distribution of water supplies. These same factors determine the systems of farming that must be practised on the land. It is customary in East Africa to talk of pastoral and agricultural tribes, and to regard the distinctive characters as more or less immutable, at all events within a generation or so. The difference in dietary habits is generally pointed to as evidence of the pastoral or agricultural tradition and qualities of the

tribes under discussion, and there is the undeniable evidence of the ethnic groupings in East Africa to support this view; but in the long run it is the nature of the land and the climate that will determine the types of agriculture that will finally be followed by any tribe in any particular geographical area. It is possible that the encouragement to grow cash crops has stimulated the Wakamba, already a people with both pastoral and agricultural leanings, to swing too violently towards intensive cultivation, with its greater cash reward, and to disregard the limitations imposed by the nature of their lands and the climate of the reserve. It may in part be a natural reaction to a rapidly increasing human population concerning which we have no recent or accurate data.

31. Having considered all these circumstances, the Committee recommends that immediate steps should be taken to acquire information regarding the human and animal population and the productive capacity of the land that is necessary for any rational study of the problem of reconditioning the Machakos District area by area.

32. In the meantime, we are safe in concluding from experience that the Reserve cannot support its present population, and that new farming areas or alternative forms of employment will have to be found for quite a considerable proportion of the present inhabitants.

33. To take first the question of providing additional areas for settlement, the "fly" areas of the Reserve must be the first to receive consideration. The whole of the so-called Makueni area of some 350,000 acres, lying between the railway or the settled area on the west, and the Kitui boundary on the east, should be the subject of a carefully worked out settlement plan in which the greatest possible attention should be given to the problem of securing the expanding settlement areas against attack by "fly". Under the stimulus provided by His Excellency's personal interest, work in the clearing and settlement of this area has already been begun by the Machakos Administration, and the Veterinary Department is advising on the necessary measures against tsetse fly. It is vital that heavy machinery should be provided in order to accelerate this work.

34. There is also the Simba area as a possible overflow for the population of Machakos, and a further 60,000 acres near Kibwezi that has been purchased. Both are "fly" areas and will require careful survey and systematic settlement, with the fullest precautions against losses from trypanosomiasis.

35. The suggestion has been mooted that the Wakamba should acquire, by temporary lease from the Masai, a large block of land adjacent to the Kamba Reserve, to accommodate those people who will have to be removed from the badly eroded areas of the Reserve while these areas are being reconditioned and rested. There are three main objections to such a proposal: In the first place, the Government has a binding treaty obligation with the Masai and no departure from that obligation should be considered except with the full consent of the Masai themselves. We understand that the matter has been discussed with representatives of the tribe who are averse from considering any lease of the type proposed. In the second place, it is unlikely

that the need for additional land will be temporary only. All the available evidence goes to show that the Reserve, according to present-day standards of living, is over-populated, to what extent we do not exactly know, but once the full survey has been made there is no doubt that a considerable permanent reduction in the density of the population in the Reserve will have to be made. Accordingly, it would be wise, in seeking additional land for the Machakos Wakamba, to count upon permanent rather than temporary acquisition.

36. The third objection to the Masai proposal is the nature of the land in the Masai Reserve adjoining the boundary between Konza and the Tsavo River. Apart from the small area surrounding Ol Mundus Hill near Sultan Hamud, which has a slightly higher rainfall and more fertile type of soil, the Masai Reserve in this region consists almost entirely of poor land, badly watered and of light carrying capacity, much about the same in this respect as the Machakos Yatta, and quite unsuitable for cultivation or for the support of a dense population.

37. It is clear that if relief areas are to be provided for the Machakos Wakamba the land in these areas must be capable of supporting a fairly dense population. Some areas that meet these requirements are to be found in the Coast Province, in the Kilifi District and possible also in Kwale, Lamu and Voi districts, but in each case the land is infested with tsetse fly. Nevertheless it is only in these areas that Government is likely to find sufficient unoccupied land of reasonably high fertility, with the necessary annual rainfall, capable of supporting an intensive system of agriculture suitable to the needs of the agriculturally inclined Machakos Wakamba.

38. In the Interim Report we recommended the constitution of a survey team, consisting of a Senior Administrative Officer as chairman, a hydrographic surveyor, an agricultural officer, a soil chemist, a tsetse expert and a medical officer, to investigate the potentialities of unoccupied land for African settlement. This team has already been assembled by Government under the direction of Mr. C. H. Williams, District Officer, and has begun work in the Taveta area. We recommend that for some time the efforts of this team should be concentrated on the task of finding suitable relief areas for the surplus population of the Machakos Reserve and that the possibilities of settlement in the Coastal Province should be thoroughly examined.

39. When the results of the surveys and censuses of the Machakos Reserve are available it will be possible to estimate the population that the Reserve is capable of supporting, the systems of agriculture that must be practised and their distribution. We shall then know approximately for how many people it will be necessary to find alternative accommodation immediately, and roughly how many must emigrate each year thereafter if the population is to be held at a figure appropriate to the agricultural resources of the Reserve.

40. We have already suggested the provision of relief areas in the Coast Province and the reclamation of the Makueni area of the Reserve. Such areas would no doubt accommodate a high proportion of the migrants for a few years, but if the population continues to increase it will be necessary to absorb a high proportion of the surplus (accompanied, we would stress, by their wives

and families) in employment, either in European agriculture or in industry. There has been a good deal of discussion regarding the development of secondary industries. It is our conviction that such a development is urgently needed as a means of absorbing the surplus population from the agricultural native reserves.

41. In the meantime there is plenty of work to be done in the reconditioning of large areas of badly eroded, chiefly arable lands, in the Reserve, and Government has already publicly announced that intensive reconditioning measures will begin in January, 1946. In our view action in the Machakos District should take three forms—

(*a*) the improvement of individual holdings carried out by the land-holders without payment;

(*b*) artificial terracing by the use of machinery in these areas where this can be economically undertaken. This is necessary because of the time factor, though the total area affected is not likely to amount to appreciably more than 3 per cent of the area of the Reserve as a whole; and

(*c*) major work to be carried out by paid labour working in organized gangs under European supervision.

42. We recommend that the procedure should consist in the first place of the demarcation of what might be called "betterment areas" which, in areas suitable for mixed farming, would vary in extent from 1,500 to 4,500 acres. The areas chosen for this purpose should be those containing a high proportion of arable land. These areas should clearly be demarcated, taking into account any topographical features of prominence and also any existent clan holdings.

43. When such a betterment area is decided upon the first stage, as we see it, would involve pooling and redistribution of all individual native rights within the clan areas, though not, of course, the extinction of tribal rights. We cannot see that any other course is possible since future holdings in the area after rehabilitation cannot coincide either in position or extent with those before it. The general lay-out of each rehabilitation area would then have to be determined by a team, consisting of an Administrative Officer, a water engineer, a surveyor, a member of the Soil Conservation staff and an agricultural officer. That having been done, the necessary soil conservation works would be undertaken. They would vary from contour terracing, with ancillary work by machinery in the intensive farming areas, to demarcation and gully-stopping. That work having been carried out, the population should, to a limited extent, be permitted to return, the limitation being the restriction of people and live stock to that quantity which the land can carry without deterioration. It will doubtless be necessary to consult native opinion as to the selection of the individuals who would be allowed to return to the area, it being made clear that proper management is a joint and several responsibility of those allowed to do so. When a number of the original inhabitants are allowed to return in this manner it is essential that there should be adequate control to ensure that the land is farmed on approved lines. Rules on the general lines of the Native Settlement Areas (Olenguruone) Rules, 1942, with appropriate modifications would appear to be necessary.

44. This would leave a number of people for whom no alternative land was available. Provision must be made to deal with these people in some way until they can be absorbed either in a new area or in industry, and we have suggested in paragraph 41 of this Report that the adult males should be employed on soil conservation works.

45. It may be argued that these somewhat drastic methods are unwise, that the people should be carried with the Government, and that no major measures should be undertaken until native public opinion was ripe. Unfortunately, the time has passed when it is possible to acquiesce in a procedure of this sort. We believe, nevertheless, that if continuous and well-directed propaganda is carried out and if it is made clear to the Akamba that the present stage under which they are required to order their lives under rules and regulations is temporary until they are able to assume responsibility for their own land without supervision, that it will be possible to obtain their agreement. Clearly it is desirable, both from the standpoint of finance and from that of administrative convenience, as soon as possible to reduce the strength of European supervision and hand over management and control of the rehabilitation units to the population. It is, however, important that there should be no relaxation of supervision until the native population has proved that it is competent to assume responsibility. The risk of retrogression must be avoided at all costs.

46. We estimate that the cost of the work over a period of five years may well be of the order of £1,500,000, apart from the provision already made in the soil conservation and general agricultural scheme already approved. This represents considerable expenditure of public money and it cannot be contemplated unless the Government is prepared rigorously to enforce the maintenance of the rehabilitated areas.

47. We have indicated that it is additional to the amount already approved. That amount makes provision for a bare minimum of supervisory staff and skilled labour, but it does not allow for the costs of bush clearing, fencing, water supplies, or the clearing of tsetse fly areas. It may be disposed to question whether expenditure of this magnitude is worth while, and we have no hesitation in giving an affirmative answer provided—and the proviso is important—that the work is maintained. We are dealing with an area of the order of 1½ million acres, with a population of perhaps 275,000, and the only alternative to incurring the expenditure and proceeding with the work is to write off the area and to move the whole population elsewhere. All the experts who have examined present conditions in Machakos have reached the conclusion that the land is not past redemption, and in these circumstances we consider that it would be a policy of despair to sit back and watch it become desert. Schemes involving assistance from the former Colonial Development Fund were approved and put into effect in respect of the Machakos Land Unit, with particular emphasis on the locations of Kangundo and Matungulu, but it is fair to say that these measures have been little more than palliatives, and the present condition of those locations only serves to demonstrate the vital necessity of proper maintenance and control if work done is not to be lost.

48. The ultimate object of the reorganization of native agriculture in Machakos must be to secure the maximum development of the land with the

minimum population necessary to achieve it. There is no point in having an uneconomical labour force on the land. That objective must necessarily be of a long-range character because the degree of over-population is possibly so great at the present time that aspiration to this objective would necessitate an unnecessarily large movement of population. The first goal, we feel, should be to reduce the population on the land to the *maximum* consistent with a reasonable standard of living for all members of the population. This will have to be achieved by drastic action, but further reduction of the population from the maximum to the minimum can then, we feel, be brought about by the pressure of economic circumstances without any direct intervention on the part of the Government.

49. Turning to other Native Land Units, the position is not dissimilar to the case of Machakos, though it differs in degree. In some areas deterioration is less and in some it is greater. Although we do not think that it is practicable to inaugurate intensive campaigns during the five years immediately consequent on the end of the war, such campaigns involving the use of machinery and paid labour, it is essential to arrest further deterioration and to take all possible immediate steps to secure an improvement in farming practices. This, we feel, can best be achieved by the application of the Director of Agriculture's scheme which has already been approved, and by intensive propaganda directed towards the establishment of better farming methods. The Director of Agriculture's scheme requires modification in certain details and a revised estimate of the probable cost is given in Appendix E.

In addition we feel that a small number of betterment areas should be selected in these districts and steps taken to deal with them as early as possible.

50. As has already been pointed out, the scheme involves the appointment of soil conservation officers and subordinate staffs to work in the areas concerned. The initial task, as we see it, is to determine, *inter alia*:—

(*a*) The population that can be carried on the land at a reasonable standard of living;

(*b*) the stock population necessary for their subsistence and for the maintenance of fertility of the arable lands and its relation to the carrying capacity of the land;

(*c*) the most suitable type of farming to be undertaken; and

(*d*) the methods by which grazing lands can be improved.

51. Conclusions having been reached on these important points, it will be necessary to draw up detailed plans for each particular area, to be based on an approved policy. The policy proposed should be submitted by the officers concerned, i.e. the Administrative and Agricultural staff, to the Government for approval and, when approved, no major departure should be permitted unless agreed to by the Government. Much time and energy has been wasted and development in native areas has been seriously retarded in the past by changes in policy due to changes in staff. The full co-operation of all departments of Government will be necessary in the preparation of policies, though the lion's share of the work will inevitably devolve upon the

Administrative, Agricultural and Veterinary officers. We do not propose in this Report to give our views regarding the detailed policies which should be introduced in the different districts because they are bound to vary materially in accordance with local conditions, and can best be formulated by officers with the requisite local knowledge.

52. The approval of a policy necessitates the preparation of detailed plans to put that policy into effect. Such plans must take into account, *inter alia*, the following:—

(*a*) The exact areas suitable for grazing only, and their carrying capacity;

(*b*) the exact areas which should be brought into a system of rotational cultivation and grazing;

(*c*) water supplies;

(*d*) sites for public buildings, including headmen's offices, dispensaries, schools, shops, etc.;

(*e*) sites for villages;

(*f*) areas unsuitable either for residences or cultivation owing to the contour of the ground, etc.

53. In our view it is necessary to prepare such plans to carry out the approved policy for each district. We do not suggest that plans should be put into operation with a stroke of the pen; they would depend on many considerations and hasty action to put them into effect would undoubtedly create disturbance of native life.

Officers of the Provincial Administration will occupy key positions in the execution of any development programme. Although we do not consider it to be incumbent upon us to make specific recommendations regarding the strength of the Administrative staff in each area, we wish to stress that unless that staff is adequate, progress is bound to be slow.

54. The position in the settled areas is different. European farmers generally are sufficiently well educated to appreciate the importance of the maintenance and enhancement of fertility, though there are several exceptions. The Director of Agriculture in the scheme which has already been approved envisages the employment in the settled areas of seven soil conservation units, consisting of African staff under a European Assistant Soil Conservation Officer and appropriate tractors, terracers and other equipment, to carry out terracing operations in European areas. We support this scheme generally but we consider that the number of units for which provision is made should be increased from seven to nine to provide a complete unit for the Naivasha District and a second unit for Uasin Gishu. There is every reason to believe that these units could be kept fully employed.

55. Apart from the provision of these soil conservation units, we consider that the main functions of the Agricultural Department in settled areas should comprise the provision of advice to individual farmers by officers of the Department and the expansion of research facilities, the results of all successful research being placed unreservedly at the disposal of individuals.

RESEARCH

56. It is generally accepted that, in the control of live stock diseases, research has in the main been ahead of practicable application; and thus research has paved the way to success in the stock farming side of agriculture. On the other hand, there has been no aspect of agriculture which has been more neglected in the past than the provision of adequate facilities for research, and in this statement animal husbandry in the accepted sense of the term is included as part of agriculture. The requirements of the country during the war period have shown clearly how ill-equipped we have been with knowledge as to how the different areas of the Colony should be farmed. There is no doubt that some of the farming failures which took place during the period between the two wars could have been avoided if the knowledge which could have been obtained from investigation and research had been available. Research, if it is to be of any real value, must be well in advance of day-to-day practice and should guide that practice. Up to now the tendency has been all the other way and in many cases research is behind practice.

57. In our opinion, this is attributable to three main causes:—

(*a*) There have been prolonged periods of financial depression during which the Government has not felt able to vote funds for the provision of adequate research facilities.

(*b*) Attempts have been made from time to time to carry out research by means of co-operative experiments with individual farmers, working in conjunction with officers of the Department of Agriculture. The plain fact is that although in theory this represents an economical way of carrying out research it does not work. In making this statement, we do not wish to cast any reflection on the farmers concerned who have at all times shown their readiness to co-operate with the Department of Agriculture to the full.

(*c*) Agricultural officers in charge of districts cannot successfully carry out the dual functions of dealing with general agricultural matters and of conducting experiments and research.

58. In these circumstances we are convinced that there is a real necessity for the expansion of the Government research organizations both in the interests of native and non-native agriculture. The existing research facilities comprise—

(*a*) a Coffee Research Station at Ruiru;
(*b*) the Scott Agricultural Laboratories which have become devoted to an increasing extent to meeting the needs of the coffee industry;
(*c*) the Grassland Research Station at Kabete;
(*d*) the Plant Breeding Station at Njoro;
(*e*) a small general experimental station at Kitale;
(*f*) a High Level Sisal Research Station near Thika;
(*g*) a Coast Station at Kibarani; and
(*h*) various seed farms in native areas.

59. This provision is, in our opinion, inadequate for research and experiment on day-to-day problems, quite apart from the fundamental research carried out by the E.A. Agricultural Research Institute at Amani, and in subsequent paragraphs we indicate our proposals for expansion.

60. The headquarters of agricultural research is the Scott Agricultural Laboratories. These laboratories, which were originally built as a convalescent home and are now in a bad state of repair, are unsatisfactory for a variety of reasons. The buildings are not really suited for their purpose, the area of land available is small (and incidentally very valuable for residential purposes) and is geographically remote from the districts in which major farming activities, apart from the production of coffee and sisal, are carried out. We recommend the construction of new agricultural laboratories at Njoro within reasonable reach of the Egerton School of Agriculture and the existing Plant Breeding Station, the land on which the present laboratories are situated being sold for residential purposes. The proceeds of the sale should go some way to meet the cost of construction of the new laboratories at Njoro.

61. Apart from the central laboratories, we consider that at least four main experimental stations are required in settled areas, with at least six sub-stations operating under them. We envisage main experimental stations at Kitale, Njoro, Thomson's Falls and Ruiru. Stations at Kitale and Njoro are already in existence, but require development and expansion. Funds have been granted for the new station at Thomson's Falls, while land has been acquired for a coffee research station at Ruiru.

62. As regards the sub-stations, we recommend that they should be situated on the Uasin Gishu Plateau, in the Mau–Molo area, at Sotik, at Rumuruti, in the Naro Moru–Nanyuki area and, in connexion with sisal, at Thika. The High Level Research Station at Thika is really a sub-station of the main East African Sisal Research Station at Mlingano in Tanganyika and works in close conjunction with it. In future both stations will work under a Joint Research Committee of the two countries. The Thika and Rumuruti stations already exist and funds have been made available for the Nanyuki–Naro Moru sub-station, so that the only new sub-stations to be established would be those in the Uasin Gishu, Sotik and Mau–Molo areas.

63. As regards the native areas, we have mentioned that there are already in existence a considerable number of seed farms which come under the control of the Agricultural Officer of each district. These officers have many calls on their time and are not in a position to carry out any of the investigations which are so urgently needed and which can be carried out only by officers who are unlikely to be called upon for other duties. We accordingly consider that there should be appointed in each of the Nyanza, Central and Coast Provinces one Agricultural Officer whose sole duties would be investigational in character. Later on, if the settlement under irrigation of a large area in the vicinity of the Tana River proves feasible, it may be necessary to institute an experimental station for the purpose of carrying out experiments in irrigation farming.

64. One specialized aspect of farming in Kenya which is particularly in need of research is horticulture, and particularly the growing of fruit. There are a number of areas in the Colony which have shown that they can grow almost every variety of fruit, but unquestionably considerable sums of money have been wasted in the growing of varieties unsuited to the conditions. We therefore recommend the appointment of one Horticulturist and two Assistant Horticulturists to work on this particular type of research.

65. Our detailed proposals for the provision of agricultural research facilities, together with an estimate of costs, will be found in Appendix F. They involve capital expenditure estimated at £65,555, with annually recurrent expenditure of the order of £9,230, but we must again draw attention to the difficulties involved in estimation in present circumstances. The figures given can be regarded as little more than an indication of the order of expenditure required.

66. A most important aspect of research is research into the utilization of pastures. The grass crop of the Colony is the most important single crop, both from the economic and fertility aspects. Considerable work has been carried out in the past by the Grassland Research Officer at Kabete, but that work has been carried out by one officer only and on land which is not representative of the grazing areas in the Colony.

67. The objects of pasture research have been defined by a representative inter-territorial Conference in 1940 as (*a*) the discovery and application of the reactions of permanent grazing land to systems of management, in order that the land be brought to its highest carrying capacity consistent with the maintenance of fertility, and (*b*) to investigate the establishment, utilization and management of grass leys in relation to mixed farming and agriculture generally.

68. We share the view of the Conference that the work can and should be organized on an East African basis, and that, if it is so organized, not only will greater value be obtained by each territory, but the work should proceed more rapidly and effectively. The first requirement is the carrying out of comprehensive vegetation and soil surveys. Later a number of main regional research stations, with a number of temporary field units, should be established. This was recommended by the 1940 Conference, but for a variety of reasons no action has been taken on the recommendations made. We recommend that the proposals should be revived and that, subject to the concurrence of the other East African Governments, application should be made for a free grant from the Colonial Development and Welfare Vote to meet the necessary capital expenditure, the recurrent expenditure being shared by the East African Governments concerned, in, we suggest, the Governors' Conference proportions. Details of the proposals will be found in Appendix G.

69. There is, however, no assurance that the other East African Governments will agree to participate in the scheme. In such an eventuality we do not consider that the Government of Kenya should acquiesce in a policy of maintaining existing facilities without any expansion. In such circumstances we consider that the Government of Kenya would be well advised to introduce a scheme of its own, though admittedly such a course would be more expensive and less satisfactory than an East African scheme. If it is found necessary to introduce a Kenya scheme, we suggest that the research stations already proposed at Ol Joro Orok in the Thomson's Falls area and at Rumuruti should be expanded and utilized. In addition, a number of sub-stations would be required to deal with types of vegetation and soil structure found in the vicinity of the stations, and we suggest that use could be made of existing

agricultural research sub-stations. In addition, a headquarters station would be necessary. This headquarters would be concerned with the administration of the scheme and with certain special branches of research such as survey of the vegetation and chemical and nutritional studies on pasture and fodder crops.

70. There remains the question of veterinary research. Proposals for the expansion of the Central Veterinary Research Institute have been prepared, and we understand approved in principle by the East African Governors' Conference and by the Secretary of State for the Colonies. We are satisfied that if they come to fruition these plans will provide all the East African territories with adequate research services in the field of disease control, nutrition and genetics. We are fully aware of the dependence of stock farming upon research in this field, but since the plans are so comprehensive and so far advanced we do not consider that it is necessary for us to make any further recommendations regarding the nature of the post-war organization. There is, however, one point relating to the provision of local research facilities on tsetse fly and trypanosomiasis to which we would make reference. The tsetse fly problem is particularly affected by local conditions of climate and vegetation, and different species must all be studied in their several environments. The Director of Veterinary Services has stated that two sub-stations will probably be necessary for the study of fly, one at the coast and one in the Northern Frontier District. The capital costs of these stations might be met from Colonial Development and Welfare funds, and an estimate of these costs is provided in Appendix H.

LIVE STOCK IMPROVEMENT

71. It is convenient to consider the question of live stock improvement under the separate heads of European dairy herds, native dairy cattle, beef cattle in the settled areas and beef cattle in the pastoral native reserves.

72. As regards European dairy cattle, we feel that the soundest policy is to concentrate on intensive dairying with high-producing cows well managed and well fed, and to concentrate on a limited number of breeds that are particularly well adapted to local conditions. New settlers should be able to obtain, at reasonable prices, small dairy herds which should provide a regular income during the early and more difficult years of developing their holdings.

73. In addition we consider that assistance is required in regard to the importation of pure-bred stock as the price of pure-bred bulls is at present almost prohibitive. We recommend that the Government should, until the cost of importation has substantially fallen, pay a subsidy at the rate of 25 per cent of the landed cost of such bulls, subject to the following conditions: —

(*a*) Each individual case to be approved by the Director of Veterinary Services after consultation with the Stockowners' Association;

(*b*) a certificate in a form approved by the Director of Veterinary Services should be provided by the appropriate authorities in the exporting country in respect of each animal;

(*c*) no bull purchased under the scheme should be sold within a period of two years except with the permission of, and on terms agreed by, the Director of Veterinary Services;

(*d*) comprehensive insurance policies shall be taken out in respect of all bulls purchased under the scheme and, in the event of the death of any bull, 25 per cent of the total sum recovered from the Insurance Company should be refunded to the Government.

Appendix I gives an estimate of the probable cost of this scheme.

74. We have carefully considered the question as to whether any further conditions should be imposed, and have reached the conclusion that they should not. It must be remembered that in each case the stockowner himself is contributing three-quarters of the total price, and it is therefore in his own interests to ensure that they are properly cared for. We would emphasize that this subsidy which we recommend is not simply and solely a subsidy to individual stock farmers, but should benefit the dairy industry as a whole, because the pure country-bred progeny of such bulls should be available for sale to other stockowners.

75. The Director of Veterinary Services proposes to establish a Central Insemination Station from which sperm will be supplied to local cattle breeding associations. Capital for the Station has been found from the profits made on the importation and sale of heifers, and the Station will operate under a board of management. The Station will serve chiefly the dairy industry and the Director of Veterinary Services plans to combine insemination with milk recording, calf marking and the control of the diseases that produce sterility in cattle. The project will in all probability prove to be self-supporting, but if assistance should be required in the early years of the Station's operation we recommend that such assistance should be provided by the Government.

76. As regards native dairy cattle, we recommend the continuation and extension of the present system under which homozygous families are built up in Government herds for eventual distribution to native farmers. Breeding centres at present exist at Ngong, Maseno, Baraton, Sangalo and Machakos. We consider that at least one of these breeding centres should be provided in every agricultural reserve. They can be stocked by a redistribution of animals from the present herds and, if necessary, by the acquisition of new foundation stock to increase the breeding herds. Estimates of cost will be found in Appendix J.

77. As regards beef cattle in native areas, the first step seems to us to be the introduction of a properly organized system of live stock marketing on the lines recommended in paragraphs 10 to 18 of this Report. The next step must be the inculcation in the native of a sense of responsibility towards the land and a strict control of grazing. The holding grounds and finishing stations that it is proposed to establish in certain of the pastoral areas under the Live Stock Marketing Board should be developed gradually as experimental stations for the breeding of improved ranching cattle.

DISEASE CONTROL

78. The necessity for strict control of stock diseases with a view to the maintenance of animal health has been recognized by the Government for many years past, and we see no reason to recommend any revolutionary change in general policy, except insofar as the control of tick-borne diseases is concerned. We would point out, however, that the incidence of measles is a serious limiting factor in regard to the production of beef and that no

practicable and effective remedy has been devised. Inoculation against rinderpest and pleuro-pneumonia is now popular in almost all native areas, and future policy should aim, as in the past, at completing the wholesale compulsory immunization of all stock and maintaining the position by immunizing the whole of the natural increase each year, with a view to the early eradication of both diseases.

79. Tick-borne diseases present a special problem, in that the only method of control so far devised consists of the regular dipping of each animal. This is an expensive process initially, particularly in the native areas, because dips cost something of the order of £200 each; they can deal only with five to six thousand head of cattle each and they require, in the early stages at any rate, close European supervision to ensure that the dipping is properly and regularly carried out, that the strength of the dip mixture is properly maintained and that animals and humans are protected from the risk of poisoning.

80. There is now little difference of opinion on the question of compulsory dipping in those native areas where tick-borne diseases are enzootic. The main argument advanced against it is that tick-borne diseases function as a natural control of the numbers of the stock population and that if tick-borne diseases are eradicated, over-stocking will increase to an alarming degree, with consequent ruination of the land. This, to us, represents a counsel of despair. East coast fever is the most serious source of wastage in the live stock industry to-day, resulting in a mortality of anything between 25 and 75 per cent of all calves under a year old. It is generally admitted that native cattle in their present state are of negligible value, but we feel that great improvement can be brought about by the use of cattle bred in the Veterinary Department herds, to which reference is made in paragraphs 71 to 77 of this Report. With regular dipping and the use of artificial insemination a limited number of good sires could effect a great improvement within a limited period, but if calf mortality on the present scale is to continue, such an improvement would take many times longer to secure, if indeed it could be secured at all.

81. Moreover, loss of calves means loss of milk, since the ordinary native cow dries up when her calf dies. To be sure of one cow in milk, where the calf mortality from east coast fever may reach 75 per cent, the native must, therefore, have at least four calves born, so that he needs four times as many cows as he would if the calf mortality from tick-borne diseases could be eliminated. There is no necessity for us to explain the importance of milk as a protective food, particularly for children, and we cannot concieve that the Government should continue to tolerate a state of affairs which deprives African women and children of such a vital food.

82. In the circumstances we have no hesitation in recommending the adoption of a policy of compulsory dipping in all native areas where it is required. It is true that one of the first effects of such a policy would be a numerical increase in the numbers of stock, but that should be dealt with by the fixation of marketing quotas at appropriate levels. Already a satisfactory method of stock limitation has been achieved in those parts of the Kikuyu Reserve that have come under the Cattle Cleansing Ordinance, and we recommend that similar measures should be enforced in other areas as an integral part of the application of the Cattle Cleansing Ordinance.

83. The provision of sufficient dips to cover all the areas concerned will be a big undertaking, and we do not consider that it can be undertaken in the twinkling of an eye, but will necessarily be a gradual process. It is preferable that it should be undertaken with the support of the African population, as otherwise there is bound to be evasion, with consequent risk of mortality through disease. In certain areas a demand has already arisen and in parts of the Central Province the construction of dips has begun. The use of these dips and the consequent reduction in mortality should prove the most effective form of propaganda, and we have no doubt that demands will rapidly be put forward by other areas. The best way, in our opinion, to deal with the problem is to meet these demands as and when they come forward and to encourage them to come forward, at the same time making it clear that the introduction of compulsory marketing of surplus stock is a natural and inevitable corollary.

84. The total number of dips required in the native areas will be something of the order of 1,000, so that the capital expenditure involved will be about £200,000 spread over a period. In addition heavy recurrent expenditure will be involved, but that should be covered by the imposition of a dip fee in areas where dipping is compulsory. We suggest a fee of Sh. 1 per animal per annum, which should be paid into a fund from which expenditure on maintenance, interest and amortization should be met.

85. We have given careful consideration to the question as to whether the administration of the Cattle Cleansing Ordinance in native areas should be a financial responsibility of the central Government or of the various local native councils. There is much to be said for its being a responsibility of the local native councils, since the passing of resolutions by those bodies would provide a reliable index of public opinion and we consider that approval by resolution should normally be sought before action is taken. We have, nevertheless, come to the conclusion that it is preferable that financial responsibility should rest with the central Government on the grounds that—

(*a*) it will require close European supervision at least in the early stages;

(*b*) it is desirable that the European staff concerned should be freely interchangeable from district to district;

(*c*) the capital expenditure involved is beyond the resources of local native councils.

86. In so far as the settled areas are concerned, the matter is at present left entirely to local option under the Cattle Cleansing Ordinance. There have been signs of development of public opinion on this subject and a considerable number of districts have elected for the compulsory application of the Ordinance, though one or two have not yet expressed themselves in favour. Once again we would stress that the problem is one of importance to the whole Colony, and we recommend that the Ordinance should be amended by deletion of the provision for local option and by providing for the strict application of dipping to all European and squatter stock in settled areas.*

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* Major Joyce wishes to record his dissent from the above sentence. He does not consider that farmers should be forced to dip their squatter cattle in those cases where the farms are contiguous to a native reserve which is endemic to east coast fever, unless and until dipping has been applied in that native reserve.

87. It must be admitted that dipping without fencing is inadequate as a control against tick-borne diseases and in many areas would not even achieve the result of bringing about a substantial decrease in the tick population. The application of the Fencing Ordinance is essential to the development of the stock industry. Apart from disease control, fencing is equally important for the proper control of grazing, for the improvement of pastures and as a check on the illicit movement of cattle. For these reasons the view has been expressed to us that early steps should be taken to apply the Fencing Ordinance either generally or on a basis of local option throughout the Colony as soon as the supply of fencing wire permits. Apart from the charges which this would raise against individual farmers, it would impose a heavy commitment on the general taxpayer in respect of the fencing of Crown land, forest reserves and native area boundaries. The total cost to the taxpayer is tentatively estimated at £120,000 on the assumption that the cost of fencing is approximately £40 per mile. This makes no allowance for the internal fencing of individual or even clan holdings in native areas.

88. We must agree at once that this expenditure has to be faced as early as possible in the interests of the farming industry, both European and native, but at the same time we cannot regard it as equal in priority to expenditure on the development of water supplies, the construction of dips, the reclamation of eroded areas, the settlement of new areas, etc. The question of making the necessary financial provision must accordingly depend on the general picture of the capital expenditure involved in the Development Committee's proposals as a whole.

89. In any event, however desirable it may be, the cost of fencing individual or clan holdings in native areas at public expense is clearly out of the question. Much can, however, be done with native goodwill by the utilization of simple methods of fencing with such local materials as are available in each area, e.g. wild sisal, thorn bush, etc., though it cannot be assumed that at the present stage of development the African will respect a penetrable fence when the grass on one side of it is thin and on the other luxuriant. Nevertheless, although fencing on any comprehensive scale is impracticable in present circumstances, we consider it desirable that a start should be made. Accordingly we recommend that in each of the pastoral areas one clan holding should be completely fenced and properly managed under the control of the Administration or the Veterinary Department. Such an area might be of the order of 10,000 acres, the actual acreage being dependent naturally on local conditions. Estimates of cost are given in Appendix L.

90. The effect of the fencing of demonstration areas in the manner indicated may well be far-reaching in that it should lead to a growth of public opinion in favour of the fencing and control of grazing and should transparently benefit the holders of the land so fenced. It would, in our opinion, be essential strictly to limit the number of cattle permitted to graze in any such fenced area.

DISEASE CONTROL—EXTENSION SERVICES

91. The extent to which the State can or should assume responsibility for the control of animal diseases requires examination in the light of practical considerations. It has already assumed responsibility for the control of epizootic as well as certain of the more serious enzootic diseases, e.g. rinderpest, foot and mouth disease, and east coast fever. There remain a number of transmissible diseases which can have a serious effect on farming operations, such as blackquarter, contagious abortion, etc.

92. At present in settled areas the live stock industry has passed from the pioneer phase into the next phase, which is characterized by more intensive farming methods as higher yielding and more valuable cows become available. It is at this stage that the incidence of these secondary diseases assumed increasing importance as the value of individual animals becomes high in relation to productive capacity, so that death from disease is a serious financial loss to the farmer. In the majority of highly developed countries treatment of such diseases is a matter which is dealt with by private veterinary practitioners against payment by the stockowner and in theory could be dealt with in Kenya in the same manner. There are, however, a number of difficulties. In many of the dairying areas there are insufficient cattle to warrant a veterinary practitioner setting up, though in some cases he might be able to make a sound living if he were assured of the custom of a substantial majority of the stockowners in the district. It has been suggested to us that the need for the provision of these services in settled areas is such as to justify a large increase in Government veterinary staff, and we have no doubt that that is the case. We are definitely of the opinion that such services must ultimately be applied on a contributory basis. We do not, however, feel able to make any recommendation on this matter because veterinary officers are likely to be in extremely short supply during the next seven or eight years, because of the virtual closing of the veterinary schools in the United Kingdom during the war. We consider that such additional veterinary officers as can become available for the Colonial Veterinary Service during the immediate post-war years can be of greater value if employed (*a*) in native areas, or (*b*) in settled areas, such as the Trans Nzoia and Thika, which are showing a tendency to change from pure agriculture to mixed farming. At the same time we understand that one or two Farmers' Associations in certain settled areas contemplate the employment of private veterinarians on a co-operative basis. Not only do we see no objection to this, but we consider that it deserves all possible encouragement and we trust that they will be successful in their efforts.*

93. The native areas present a somewhat different problem. There the employment of private veterinarians is out of the question and the responsibility of the Government staff must largely be confined to the control of the major enzootic and epizootic diseases, the improvement of native animal husbandry through propaganda, the provision of improved stock, and the organization of the industry generally. The Government has perhaps a certain responsibility to provide a minimum service for the diagnosis and treatment

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* A note by the Director of Veterinary Services on the subject of Contract Veterinary Services is at Appendix M.

of secondary diseases, but responsibility for additional assistance over and above that minimum cannot be assumed at present. We envisage that in due course additional veterinary assistance will be provided through the employment by local native councils of trained African veterinarians whose services should become available at a cost within the capacity of local native councils. Unfortunately, the output of such veterinarians from Makerere is small and is likely to remain small for some time to come.

Mr. J. F. G. Troughton, Financial Secretary, presided over all our meetings but this report does not bear his signature because he left for the United Kingdom before the final report had been typed. He authorizes us to say, however, that he agreed with the draft of the report.

Mr. R. Daubney left the Colony on leave before the report was completed and it therefore does not bear his signature.

W. S. MARCHANT.
D. L. BLUNT.
*F. W. CAVENDISH-BENTINCK.
FRANCIS SCOTT.
F. H. DE V. JOYCE.
E. W. PARDOE.
K. R. PAROO.

K. W. SIMMONDS, *Secretary*.
15*th January*, 1946.

* Signed subject to the proviso that the suggestions and plans which have recently been made in accordance with the provisions of Sessional Paper No. 8 of 1945 be held to supersede the recommendations previously made in paragraphs 31 to 55 of this Report, many of which recommendations have since been tried but in the light of experience have been improved upon.

APPENDIX A

Paragraphs 8 and 9—Native Marketing Officer

Salary, etc., of Native Marketing Officer (£880 × £40—£1,000).

	Salary £	Other Charges £
1st year	880	300
2nd year	920	300
3rd year	960	300
4th year	1,000	300
5th year	1,000	300
6th year	1,000	300
7th year	1,000	300
8th year	1,000	300
9th year	1,000	300
10th year	1,000	300
	9,760	3,000
		9,760
	Total (10 years) ...	£12,760

APPENDIX B

Paragraphs 15-17—*Live Stock Marketing Board*

Central Abattoir, capital cost	£50,000

Recurrent cost would be met from the funds of the Live Stock Marketing Board.

APPENDIX C

Paragraph 18—*Quarantine Areas and Fenced Stock Routes*

(i) *Quarantine Area, Isiolo* (145 *square miles*).

Boundary fence	60 miles	
Subdivisions	20 miles	
	80 miles of 5-strand fencing at £40 per mile	£3,200

(ii) *Stock Route, Isiolo–Nanyuki.*

Fencing both sides of road from boundary of settled area to Nanyuki (34 miles)	68 miles	
Fencing 3 outspans, each 1,000 acres, say	15 miles	
	83 miles at £40 per mile	£3,320
Water supplies at 3 outspans		£360
		£3,680

(iii) *Stock Route, Maralal-Thomson's Falls.*

Fencing both sides of road from boundary of settled area to Thomson's Falls (48 miles) equals 96 miles at £40 per mile	£3,840
Sixty gates and 30 grids for access to farms	£1,000
Three water supplies at outspans, pumps, troughs, piping, fittings, etc., at £120 each	£360
Watering point, Narok Swamp	£600
	£5,800
Total ...	£12,680

APPENDIX D

Paragraph 46—*Machakos Reconditioning*

Expenditure over five years over and above expenditure under C.D. and W.V. Soil Conservation Scheme ...	£1,500,000

APPENDIX E

Paragraph 49—*Soil Conservation Measures, Other Native Areas*

Soil Conservation and General Agricultural Development—revision of Colonial Development and Welfare Vote Scheme No. D. 299	£1,500,000

APPENDIX F

Paragraph 65—Agricultural Research

CAPITAL EXPENDITURE	£
(*a*) *Laboratories*	
New Agricultural Laboratories	9,075
Water Supply, etc.	3,200
16 Senior Officers' houses	22,400
14 Junior Officers' houses	15,400
African quarters	2,680
(*b*) *Stations*	
Land—Plateau, 300 acres at £2	600
Land—Molo, 100 acres at £8	800
Land—Sotik, 100 acres at £3	300
Fencing and equipment	2,000
Farm buildings	1,600
Stock	900
Labour lines	3,600
Water supplies	3,000
Total Capital ...	£65,555

Recurrent Expenditure.		
First Year	£	£
4 Agricultural Officers	1,600	
1 Live Stock Officer	400	
1 Horticulturist	400	
1 Soil Chemist	400	
2 Entomologists	800	
1 Plant Physiologist	400	
4 Assistant Agricultural Officers	1,440	
1 Assistant Horticulturist	360	
Labour	720	
Upkeep of stations	1,500	
Additional African Laboratory Staff	210	
Additional travelling	1,000	
		9,230
Second Year, add 5 per cent		9,688
Third Year, add 5 per cent		10,172
Fourth Year, add 5 per cent		10,680
Fifth Year, add 5 per cent		11,214
Total Recurrent Expenditure ...		£50,984

Total Expenditure over 5 years: £116,539

APPENDIX G

Paragraph 68—Pasture Research

Scheme endorsed at First East African Pasture Research Conference, held at Nairobi on 21st-24th August, 1940.

Estimates of Expenditure for Five-Year Period.

Capital	£
(i) Two main Regional Stations (one for Acacia-tall grass savannah, and one for Kikuyu grass vegetational zones) each at £6,948	13,896
(ii) Headquarters	8,790
(iii) Five Sub-stations, each at £550	2,750
(iv) House for Pasture Research Officer in control of Lake and Kamasia sub-stations	1,400
(v) House for African clerk	200
Total Capital Expenditure ...	£27,036

Recurrent

(vi) Staff and Travelling:—		
Chief Pasture Research Officer	£7,378-12-00 per annum	
Three Pasture Research Officers		
One Pasture Research Chemist		
Six Pasture Research Assistants		
Two European Learners		
Travelling and Passages for above		
Three African Learners		
Four African Clerks		
80 African Labourers		
(vii) Other Charges, per annum	£2,700-00-00	
Recurrent Expenditure, per annum ...	£10,078-12-00	
Recurrent Expenditure over five years ...		£50,393
Total Expenditure on Scheme over Five Years ...		£77,429

APPENDIX H

Paragraph 70—Veterinary Research

Tsetse Fly and Trypanosomiasis Experimental Sub-stations.

Capital Cost

One Sub-station	£
Laboratory	1,200
Equipment, etc.	500
Lighting	300
Class III House for Field Zoologist	1,600
Quarters for visiting staff	400
Animal accommodation	600
Water supplies	1,500
Contingencies	200
Total Capital Cost, one sub-station	£6,300

For two sub-stations ... £12,600

Recurrent Cost

One Sub-station	£
1 European Officer	540
2 African Assistants (Laboratory)	48
4 African Assistants (Field)	96
12 Fly boys	216
6 Labourers	54
Rations or cash in lieu (bonus) 24 Africans at Sh. 10 per month each	144
Upkeep of Transport	150
Petrol and Oil	60
Chemicals, etc.	50
Literature, periodicals	25
Tools, etc.	100
Incidentals	120
Total Recurrent Cost, one sub-station	£1,603

For two sub-stations ... £3,206

APPENDIX I

Paragraph 73—Importation of Pedigree Stock

Subsidy, 1945	£2,500	
Subsidy, 1946	£15,000	
		£17,500

APPENDIX J

Paragraph 76—Breeding Centres, Native Areas

Capital

	£	£
Capital cost of one centre, including milking bail, calf houses, bull boxes, Dutch barn, office and general store, cattle dip, fencing, dairy, African quarters, water supply, tools and implements, live stock, contingencies and Class IV house for Instructor in Stock	5,000	
Class IIIA house for District Veterinary Officer if breeding centre is used as Headquarters Station	1,400	
Accommodation for pupils, teachers, etc., at Training School	2,300	
Total Capital cost of complete centre	£8,700	
Capital cost of complete centres at:—		
Kisii		8,700
Kabianga		8,700
Kamasia		8,700
Nyeri		8,700
Meru/Embu		8,700
Mariakani		8,700
Capital Cost of centre in Trans-Mara (Masai) excluding house for District Veterinary Officer		7,300
Total Capital Cost of Breeding Centres, Native Areas ...		£59,500

Recurrent

Estimated Recurrent Costs per annum for One Breeding Centre for Native Cattle

	£
Stock Inspector's Salary	600
30 African Labourers at Sh. 25 each per month	450
1 Clerk (African)	60
1 Headboy	48
1 Instructor	30
1 Teacher	72
30 Pupils' Uniforms	60
30 Pupils' Blankets	25
School books, stationery, etc.	25
Pupils' food at Sh. 10 each per month	180
Pupils' soap, paraffin, charcoal, etc.	40
Maintenance of plant and buildings	60
Stockfeed	400
Dip fluid	10
Transport	100
Contingencies	50
Total ...	£2,210

APPENDIX K

Paragraph 87—*Cost of Application of Fencing Ordinance*

(i) *General Application*

Maximum Government Commitment if applied to whole of White Highlands—2,850 miles at £40 per mile, including gates—£114,000–£120,000.

(This does not include liability of K.U.R. & H.)

(ii) *Application on basis of Local Option*

The Director of Veterinary Services recommends provision of £50,000 to cover five years working of Ordinance on Local Option basis if such a basis is decided upon.

APPENDIX L

Paragraph 89—*Fencing of Clan Holdings in Pastoral Areas*

Estimated cost of paddock-fencing one clan holding of 10,000 acres in a pastoral area:—

	£
Perimeter fencing, 16 miles at £40 per mile	640
Paddock fencing—9 paddocks of 1,110 acres each, 16 miles of fencing at £40 per mile	640
Gates and Grids (18)	200
Water supplies (average cost)	1,200
Contingencies	260
Total for one holding ...	£2,940

Demonstration fenced holdings should be provided in the following areas:—

Masai-Narok	1	
Masai-Kajiado	1	
Kamasia	1	
East Suk	1	
West Suk	1	
Turkana	1	
Samburu	1	
Isiolo	1	
Garissa	1	
Wajir	1	
Elgeyo	1	
	11 holdings ...	£32,340

APPENDIX M

Paragraphs 91 and 92—Disease Control

Note by Director of Veterinary Services on Control of Live Stock Diseases: Contract Services

The extent to which the State may be prepared to assume responsibility for the control of animal disease is determined by various practical considerations. At the outset the State invariably accepts responsibility for the control of epizootics, as well as certain of the more serious enzootic diseases, i.e. those diseases that are liable to spread widely and to dislocate the activities of the whole or a large part of the agricultural community, and those enzootic diseases that cause a steady, and in the aggregate, considerable wastage to the community, the control of which rests more upon an organized attack by the community as a whole than upon individual effort. Examples of the epizootics are rinderpest, contagious bovine pleuro-pneumonia, and foot-and-mouth disease, and of the second category, east coast fever and the tick-borne diseases generally.

There still remains to be dealt with a number of transmissible diseases, most of them serious enough to affect vitally the profit that can be made on farming operations. Examples of this class of disease are blackquarter, contagious abortion, mastitis, contagious cervico-vaginitis and epididymitis, paratyphoid and whitescour of calves, streptothriacosis of sheep. While it is usual for the State to provide funds and facilities for research work on this type of disease, control measures in the past have generally been regarded as the responsibility of the individual farmer, at times assisted by the Local Authority, and the farmer is generally expected to bear most or all of the cost. On the principle that it is to the interest of the State to ensure that agriculture is reasonably efficient and prosperous, there has been a marked tendency in recent years for the State to intervene in the control and/or elimination of wastage from such causes, at first by financing the appointment of extension officers whose duty it is to educate and advise farmers in these problems, and more recently by organizing services through private practitioners as in the Ministry of Agriculture's scheme for the Control of Diseases of Dairy Cattle, under which about 275,000 dairy cows and heifers have been voluntarily entered by nearly 6,800 farmers in Great Britain.

The British scheme relates to the control of mastitis, contagious abortion, sterility and Johne's disease in dairy cattle, and the arrangements were made between the National Farmers' Union, the National Veterinary Medical Association, and the Ministry of Agriculture. Under the scheme the veterinary practitioner undertakes for an annual fee of 12/6d for every cow up to ten, and 10/- for every cow over ten (plus 4d per mile for an excess of mileage each way) to carry out quarterly inspection for mastitis and examination of all cows and to pay such other visits as are necessary for diagnosis, control and treatment of these four diseases. At quarterly inspections cows are examined for pregnancy and infertile animals are appropriately treated, material is collected for laboratory examination and subsequent visits are paid to carry out such additional treatment as may be necessary. Heifers from six months to first calving are charged at Sh. 2/6 per head per annum. The farmer agrees to keep services, calving and milk records, to examine the milk of each cow daily by the strip cup, to follow instructions regarding segregation, to report acute cases of mastitis, abortions and animals that do not come into heat within 60 days of calving, to withhold from service any animal that shows abnormal vaginal discharge, and to report animals that return to three successive services. The Ministry contracts to provide laboratory services for diagnostic work free of cost, to provide abortion vaccine free, and sulphonilamide at a greatly reduced charge. The object of the scheme is to make an organized attack on the four most important sources of wastage in dairy herds that remain uncontrolled by the State.

In the settled area of Kenya, the live stock industry has passed from the pioneer phase of low efficiency into the next phase which is characterized by an intensification of methods of stock husbandry, as the improved higher-yielding and more valuable cows become available. Our dairy industry is entirely dependent upon its ability to compete in the world market. It must be efficient or it will not survive. It is at this stage then that the incidence of these secondary diseases begins to assume such an important role in the economics of the industry; and at the same time the value of the individual animals rises proportionally to their productive capacity, so that the death of a cow or failure to get her in calf is a serious financial loss to the farmer. It is at this stage too that the private veterinary practitioner begins to come into the picture, but until there are sufficient private practitioners to cover the countryside the farmer has a lean time indeed. The next stage is the attempt by the State, as in the scheme referred to above, to organize the services of practitioners in a State-aided and State-planned attack on these causes of wastage in order to make the industry more efficient. Although the dairy industry has already in most parts of the Kenya settled area reached the stage at which the private practitioner is obviously needed, as well as the State Veterinary Officer, it is doubtful whether we could attract private practitioners in sufficient numbers for many years to come. Distances between farms are still too great for economic travelling, the density of the cattle population too low. In England the private country practitioner, single-handed, can earn anything between £1,200 and £2,000 per annum gross; it is hard work, but most practitioners are inured to hard work and long hours. In Kenya, on the other hand, the live stock population is not sufficiently dense to make it possible for the practitioner to earn anything like this, beause so much of his time would be spent in travelling. Moreover, there is going to be an acute shortage of veterinarians for at least ten years after the end of the war.

Probably the greatest preventable wastage in the grade cattle dairying industry to-day is that from infertility or sterility, due to specific cervico-vaginitis, trichomoniasis, plus the whole range of inflammatory disorders of the genital tract. Contagious abortion is possibly a good second to sterility as a cause of wastage, and to reduce and control this wastage we shall need an organized service (clinical and laboratory) similar in scope to the Ministry of Agriculture's scheme. Since we are unlikely to be able to obtain private practitioners it is necessary to work out some scheme on a contributory basis which will provide these services, at least for the dairy industry, and possibly at a later date for other branches of the live stock industry.

The Kenya scheme would cover sterility, contagious abortion, calf diseases and mastitis; and the services given by the department and the undertaking required from the farmer would be similar to those of the Ministry of Agriculture's scheme. This service would fit in very well with the proposed development of community breeding by artificial insemination, and would help to combine animal health services with the purely physiological side of insemination. It would bring the farmer into still closer contact with the veterinary staff and at the same time give the veterinary officer a greater insight into the farmer's problems, and no doubt enable him to make himself useful in other ways. There is need for a considerable increase in staff in the settled areas in any event, and tentative plans provide for the posting of veterinary officers to the following stations: Nairobi, Limuru, Naivasha, Gilgil, Nakuru, Njoro, Molo, Songhor, Eldoret, Hoey's Bridge, Kitale, Sotik, Nanyuki, Thomson's Falls and possibly Machakos. The present staffing of the settled areas is far too sketchy. Apparently it is proposed to introduce some hundreds of new settlers, who will be dependent quite largely on intensive dairying for their incomes. If this new settlement is to have a fair chance of success it will be necessary to provide veterinary assistance on a scale considerably in advance of anything that has been given in the past.

Proposed Contract Terms

1. Government undertakes that the Veterinary Officer will pay a quarterly visit to inspect all cows. At this visit the Veterinary Officer will—

(*a*) examine all bulls for evidence of genital disease, make semen examination with the aid of the artificial vagina, where necessary;

(*b*) undertake such treatment of bulls as may be desirable, prescribe future treatment and advise the owner;

(*c*) examine all cows showing symptoms of infection of the genital tract or udder;

(*d*) carry out such treatment as is necessary, prescribe further treatment and advise;

(*e*) examine all cows that have failed to come into heat within 60 days of calving, carry out any necessary treatment, including manipulative treatment, and prescribe future treatment;

(*f*) examine all cows that have failed to hold to three consecutive services, undertake necessary treatment and prescribe;

(*g*) examine for pregnancy all cows that have completed nine weeks without return of oestrus since the last quarterly visit;

(*h*) examine calves for evidence of illness, malnutrition and advise regarding methods of management and specific treatment;

(*i*) collect specimens for laboratory examination in every case where such an examination is likely to facilitate diagnosis or assist in preventive or curative treatment.

2. The Veterinary Officer will pay such further visits as may be necessary to continue treatments begun under (*d*), (*e*) and (*f*) above, and in addition will visit to examine cows that have failed to hold three consecutive services, when a report to this effect is made by the owner.

3. Government further undertakes to perform, free of charge, all necessary laboratory examinations of materials forwarded by or through the Veterinary Officer, including agglutination and complement fixation tests in connexion with diagnosis, treatment or prevention of the specified diseases, to supply vaccines for immunization or treatment of these diseases free of charge, and to supply imported chemotherapeutic agents (e.g., sulphonilamide compounds) and manufactured biological preparations (e.g., stilboestrol) required for the same purpose at cost.

4. The farmer undertakes—

(*a*) to mark all cows and calves with a number in a manner satisfactory to the Veterinary Officer;

(*b*) to keep satisfactory service and calving records in a prescribed form, or alternatively in a form approved by the Veterinary Officer;

(*c*) not to allow any bull to run with the herd, but to carry out hand service or artificial insemination;

(*d*) not to allow service of any cows by any bull not entered in the scheme;

(*e*) to record yields of of milk daily;

(*f*) to report to the Veterinary Officer all abortions, all cows failing to conceive after three consecutive services, and at the quarterly visit of the Veterinary Officer all cows that have not shown heat periods within 60 days of calving;

(*g*) to carry out such measures, be they related to hygiene, methods of management, or clinical treatment, as may be prescribed by the Veterinary Officer in the course of his inspections;

(*h*) to pay each year in advance the capitation fee prescribed in the contract.

5. For the present the scheme will be limited to dairy cows and calving heifers and the capitation fee will be charged on dairy cows and bulls only. The nominal charge will be for ten cows, but where a farmer is not entering the whole of his cows and calving heifers the nominal charge will be for 50 head.

6. For the first year the capitation charge will be fixed at Sh. 12/50 for the minimum entry of ten animals, and over this number Sh. 10 per head

for cows and bulls and Sh. 2/50 per head for calving heifers. Careful accounts will be kept and the charges will be reviewed at the end of the first year by a committee of farmers and officials in the light of the cost of the scheme to Government. It is proposed that a proportion of the capitation fees shall be paid to the Veterinary Officer to compensate him for the increased work and the loss of fees from private practice. If the scheme proves popular it is likely that the Veterinary Officer will be called upon to work much the same hours as the private practitioner for a considerably lower remuneration. This is a reason for the suggestion that he should receive a proportion of the fees.

7. It should be emphasized that the scheme is directed towards increasing the efficiency of the dairy industry and eliminating wastage from contagious abortion, mastitis, trichomoniasis, cervico-vaginitis, endometritis, other diseases of the genital system, and calf diseases. Today, the increasing incidence of two of these diseases, particularly trichomoniasis and cervico-vaginitis, seriously threatens the economic stability of the industry. The scheme will be supported by intensive laboratory research on the diagnosis, treatment and prevention of these two diseases.

Appendix 4

REPORT OF THE DEVELOPMENT SUB-COMMITTEE ON BUILDING MATERIALS

1. The Sub-committee was appointed by the Development Committee on the 1st February, 1945, with the following personnel:—Mr. H. B. Hamilton (Chairman); Mr. R. Pedraza, Commissioner of Mines; Mr. G. Rivers-Thomas, Quantity Surveyor, P.W.D.; Mr. A. Johnston, Engineer-in-Charge, Nairobi Sub-district, K.U.R. & H.; Mr. H. O. Weller, East African Industrial Research Board; Captain G. P. Spurr, Secretary, Building Control Committee; Dr. W. Pulfrey, Government Geologist (Secretary).

2. The Sub-committee's terms of reference were:—

(*a*) To ascertain the extent to which local building materials, including lime, bricks, tiles and other roofing materials, stone (building and ballast), sand and timber are likely to be available during the five years immediately following the end of hostilities;

(*b*) To make any recommendations considered necessary with a view to increasing the supply and improving the quality of such materials; and

(*c*) To advise as to whether any, and if so what, limitations should be imposed on any Government building programme on the ground of availability of local materials.

3. The Sub-committee *in toto* held meetings on 12th February, 2nd May and 1st June, 1945. In addition some of the technical members held six special meetings on the 4th, 5th, 7th, 10th, 21st and 25th May, 1945, for the purpose of collating the bulky data obtained and to decide the best method of setting it out for the use of the Development Committee.

AVAILABILITY OF BUILDING MATERIALS

4. Such information as it has been possible to obtain, within the scope of the investigations, regarding the present resources and production of the basic building materials is given, in the form of brief notes in Appendices A to D. As the greater proportion of the demand for the materials occurs in the few principal towns, which are the centres of activity, it was decided to segregate data relating to them in Appendix A. In these cases, owing to the existence of established contractors it has been possible to obtain approximations of present production and indications of probable development. Smaller centres of population, where such resources as are available are adapted to their requirements as the demand arises, are considered separately in Appendix B. Production in such cases is liable to considerable fluctuations, and in consequence it has not generally been found practicable to quote figures.

As timber is at present under Government control the required information has been more readily obtained in concise form by reference to the Timber Controller, whose report is attached hereto in Appendix C, to which data supplied by the Conservator of Forests is added.

A few miscellaneous building materials are dealt with in Appendix D.

5. The production of several of the materials considered has been greatly increased during the war period owing to military requirements, and it is to be anticipated that when service demands subside the augmented rate of production will not cease at once, and that much greater quantities of local building materials will be available for civilian use. It cannot, however, be forecast for how long the demands of the Services will continue after the end of hostilities. Without specific information regarding construction works projected for the immediate post-war years, it is not feasible to compute an approximation of the quantities of materials likely to be required and the periods of time over which it would be permissible to distribute the supply, and it is therefore not possible to gauge accurately whether sufficient quantities of any material will be immediately available when wanted. It may be taken as axiomatic, however, that a demand for any material tends to create its supply and it appears likely that when the economic incentive is given to producers and manufacturers they will be able to maintain production at super-normal levels, such as has been done during the war years when production of most basic building materials has been greatly in excess of pre-war figures.

6. A general perspective of the resources, availability and factors controlling availability, of each of the basic materials is given below.

Sand.—Resources of sand are extensive throughout Kenya, and there is little likelihood that any district will experience a shortage, though it may be necessary in some cases to transport sand from deposits some distance away.

The principal factors controlling the availability of sand, so far as the larger centres are concerned, are seasonal operation, sufficiency of labour, and adequacy of rail and/or road transport. With the two latter factors satisfied there is every reason to believe that production could be increased greatly over present figures.

Ballast.—Resources of hard rock suitable for ballast are extensive and usually within practical distance of the localities where ballast will be required. The principal centres are well supplied with the exception of Nakuru and Kitale, though it is probable that if adequate search is made in those districts resources of suitable hard rock within economic distance and sufficient in quantity will be found.

In some of the smaller centres hard rock suitable for ballast for reinforced concrete work is not available. In such cases, however, there are usually resources of suitable building stone. The waste from quarrying can be used as ballast for less exacting work.

The controlling factors in the production of ballast are almost everywhere incentive to produce and a sufficiency of labour.

Building Stone.—Stone, acceptable as building stone, is of restricted occurrence, and of the principal centres Kisumu, Eldoret and Kitale have no supplies in the immediate vicinity. It appears, however, as if the manufacture and use of bricks, even if of inferior quality, might, to a certain extent, take the place of stone in those areas. In addition, at Eldoret and Kisumu there are ample resources of rock for ballast suitable for producing concrete blocks for building in reinforced concrete.

The minor centres are in general similarly situated. Many have their own stone deposits, and indeed are often the sources from which the larger centres draw their stone supplies. In several cases brick-making has been tried more or less successfully, and offers an alternative to the use of stone. Further, at most places, hard rock suitable for ballast is available and concrete block structures can be used failing resources of stone or raw materials and skilled labour for brick-making.

The principal factors controlling the availability of stone are the occurrence of beds of suitable rock and the number of skilled stone-cutters available. When these factors are satisfied others become of increasing importance—the occurrence of the reserves on private land or in Forest Reserves, the need for administrative regulations, overburden, methods of quarrying, and, in the case of Nairobi, the fact that the railway is unable at present to transport the stone over the comparatively short distances from the quarry areas to the town.

Bricks.—The greater part of the present production is accomplished by the prisoner of war camps at Burguret (Nanyuki), Melawa (Naivasha), and Eldoret, and by the Civil Labour camp at Thika. These works are temporary expedients.

So far as the major centres are concerned, commercial brick-making is carried on only at the Coast Brick and Tile Works and at the Nairobi Brick and Tile Works, at which, however, output is confined principally to the manufacture of roofing tiles. Bricks of very inferior quality are also made in considerable quantities at Kitale.

Bricks are made at several of the minor centres, though usually there is no production beyond immediate demands for local construction. It is probable that bricks could be made at various other localities if required.

Most of the bricks produced throughout the Colony are, judged by the British standards, of inferior quality. The factors limiting their manufacture are the existence of deposits of suitable raw materials, restrictions on the use of such deposits owing to their occurrence on private land and in Native Reserves and, in almost all cases, the limited availability of fuel within economic distance.

Tiles.—The building industry is dependent to a large extent on the importation of Mangalore tiles to provide permanent roof covering. The two established local producers, (1) the Coast Brick and Tile Works manufacturing Mangalore-type tiles, and (2) the Nairobi Brick and Tile works making Broseley tiles, produce good quality tiles but in insufficient quantities to meet more than a small fraction of the demand. Production by these established firms is inversely proportional to the amount of brick-burning carried out. The output by other producers is small and not dependable.

Factors limiting the manufacture of good-quality burnt tiles are the existence of deposits of suitable raw materials, lack of trained and experienced supervisors and, at the larger centres, difficulty in obtaining sufficient fuel.

Cast cement tiles are being made in the Nairobi district, while asbestos-cement tiles are being produced at Kisumu. The output of the former is small, while the entire production of the asbestos-cement sheets at Kisumu has, in the past, been consumed by the Army. The number of cast tiles which can be made is controlled by the number of moulds available and by the supply of cement.

Lime.—There are five principal producers of lime, viz:—

	approx. monthly production
(1) Lime Burners, Ltd., Mombasa	270 tons
(2) Kenya Marble Quarries, Kajiado	350–400 "
(3) Fairview Estate, Kiambu	100? "
(4) Homa Lime Co., Homa Bay	400 "
(5) Legetet Estates, Muhoroni	145 "
Total monthly production of the order of ...	1265 tons

In all cases production is controlled to a large extent by the availability of fuel and labour. For greatly increased outputs it would be necessary to install additional kilns at each locality.

Reserves of limestone in the Colony are abundant, but the five principal producers work deposits which are most advantageously situated with regard to transport. Their reserves may be classed as:—

(1) Lime Burners—Unlimited.

(2) Kenya Marble—Unlimited.

(3) Fairview Estate—Limited.

(4) Homa Lime—Considerable.

(5) Legetet Estates—Considerable.

The above limes are fat limes. Most of them may, however, be rendered hydraulic by admixture of pozzuolanic materials, which are found in many parts of the Colony.

Timber.—The figures quoted by the Timber Controller and reproduced in Appendix C, suggest that supplies of timber are adequate and that there is little likelihood of a shortage. It should be borne in mind, however, that for some time all available timber has been unseasoned and frequently badly sawn. These factors lead to inferior results and unavoidable wastage of material and labour when such timber is employed for building or constructional purposes.

It is necessary to emphasize that though present production of timber is at a high and unprecedented level, limited quantities only are available for the civilian market. In addition, attention may be drawn to the fact that the bulk of the hardwoods required in Kenya are imported from Uganda.

7. *Imported Materials.*—It must be stressed that in almost any building or engineering scheme a considerable proportion of the cost is represented by imported materials. An incomplete but sufficiently indicative list of such essential materials, which must at present be imported, is:—Cement, glass, water supply and sanitary pipes and fittings, glazed sanitary fittings, screws, nails, hinges, paints, structural and reinforcing steel, door and window fittings of all descriptions, electric light wiring and fittings, galvanized iron sheets, tanks, boilers, etc. It will be apparent that the use of local materials is to a large extent governed by the availability of an adequate supply of these essential imported materials.

8. *Labour.*—In addition any building programme is dependent on the amount of labour available for the exploitation of raw materials and for their conversion into articles used in building, as well as by the number of artisans available whose services translate the mere sterile availability of materials into actual building. In considering the availability of skilled artisans to undertake constructional work in any development plan the fact that a considerable number will be required for the maintenance and repair of existing structures, which have of necessity been neglected during the past few years, should not be overlooked.

RECOMMENDATIONS FOR INCREASING THE SUPPLY AND IMPROVING THE QUALITY OF LOCAL BUILDING MATERIALS

9. *Sand and Ballast.*—We have no recommendations to make in connexion with these two materials.

[illegible] *Bricks and Tiles.*—The value of local burnt bricks and tiles as building materials cannot be over emphasized and production on a large scale within economic distance of the larger centres would be a valuable asset to the building industry and would solve difficulties arising from shortage of suitable building stone and roofing materials.

It is, however, essential that these articles be of sound quality and produced at a cost which is competitive with alternative materials.

The failure in the past of several ventures at brick-making on a commercial basis can be traced to lack of knowledge and practical experience on the part of promoters, resulting in the unsuitable choice of sites, material and machinery, and high production costs due to over capitalization, heavy overhead charges and uneconomic use of labour.

The importance attached to the development of this potential source of building material is such that it is considered that some impetus must be given to the establishment of brick and tile making in the Colony as a sound and economic industry and that the subject is deserving of thorough investigation.

It is suggested that as a first step an adviser with adequate experience gained both in Britain and Kenya could be commissioned to visit places where brick-making activities at present exist, with a view to improving the quality of the products and methods of production by affording practical instruction and advice.

It is recommended that when prisoner of war brick-making activities cease every effort should be made to prevent the industries from lapsing.

Timber.—Some form of trade or government regulation should be introduced to ensure adequate seasoning and general improvement in quality of sawn timber, which, in its turn, will have a beneficial effect on the timber industry generally.

Stone.—Much of the stone dressing is at present carried out by unskilled natives and it is suggested that efforts are required to increase the number of skilled stone dressers by (*a*) improved quarry conditions, (*b*) improved training of stone-dressers. The latter might well be incorporated in any schemes for the rehabilitation of natives discharged from the Army.

It is recommended, in addition, that an investigation is necessary with a view to improving the quality and quantity of stone available. In this connexion the possibility of the importation and use of cutting machinery, if found to be economic, should be considered.

Lime.—Standardization or public specification of products put on the market is desirable.

General.—It is suggested that in case of need the power to acquire land under the provisions of the Land Acquisition Act should be extended to cover deposits of common minerals required as building materials.

LIMITATIONS ON GOVERNMENT BUILDING PROGRAMMES

10. As the Committee has no information regarding Government building programmes, it is unable to advise on this subject.

11. A minority report by Mr. Weller is attached hereto.

H. B. HAMILTON,
Chairman.

R. PEDRAZA,
G. RIVERS THOMAS,
A. JOHNSTON
H. O. WELLER,
G. P. SPURR,
Members.

W. PULFREY, *Secretary.*
Nairobi, 6th June, 1945.

MINORITY REPORT

While not objecting in the main to the recommendation on bricks and tiles, I deplore the fact that my amending contention was not unanimously accepted by the Sub-committee. My contention was that the Industrial Research Board has already, in the person of Mr. A. J. Campbell, its Ceramic Specialist, recently recruited from Stoke-on-Trent, a man fully capable of solving any brick or tile burning problems that could possibly arise in East Africa; so that to recruit from overseas another adviser would be an unnecessary extravagance.

H. O. WELLER.

8th June, 1945.

APPENDIX A

DATA ON THE PRESENT SUPPLY OF BUILDING MATERIALS, THEIR AVAILABILITY AND THE RESOURCES OF RAW MATERIALS IN THE PRINCIPAL CENTRES OF KENYA

(*Note.*—The absence of a materials heading in any section indicates a lack of local supply of that material.)

A—MOMBASA

Sand.—Pit sand is produced on the coast near Mombasa, but as it is not suitable for reinforced concrete work or hard-wearing surfaces it is necessary to import considerable quantities of good quality sand from Voi. The present total production is about 90,000 cu. ft. per month, of which about one half comes from Voi. The resources of sand are unlimited and the quantity of sand obtainable from Voi is limited by the availability of railway trucks.

Ballast.—Coral is worked for ballast in unknown quantities, but is not suitable for reinforced concrete work or hard-wearing surfaces. The resources of coral are unlimited.

Stone for hard ballast, such as is necessary for good quality concrete work, etc., is obtainable at Makupa, Mazeras and Mariakani. The present production is tbout 230,000 cu. ft. per month. Sources of supply are practically unlimited, but the supply at Mombasa is proportionate to the availability of labour and rail transport.

Stone.—The majority of buildings are constructed of coral blocks of which the present production is about 100,000 running feet per month, but is capable of being increased provided skilled stone dressers are available and new quarries are opened outside the municipality.

Concrete blocks are commonly used as an alternative to coral blocks.

Mariakani sandstone is also used as a building stone, but in small quantities for special purposes.

Bricks.—The Brick Works at Mombasa is capable of manufacturing bricks at the rate of 150,000 per month, provided fuel and labour are available and no tiles are made. The continued production of bricks in the post-war period will be dependent on the maintenance of the present high price, which is doubtful in view of competition from other more cheaply produced materials.

Tiles.—The Coast Brick and Tile Works, when working double shifts, is capable of producing 50,000 tiles per month, provided fuel is available and no bricks are made. The normal production is about 25,000 per month. Continued production in the post-war period will depend on the maintenance of the present high price, which is improbable in competition with imported Mangalore tiles. Fuel difficulties are a serious handicap.

Lime.—Good quality lime is produced on the adjacent mainland at the average rate of about 265 tons per month. It is said that the production could be increased provided fuel and labour difficulties are overcome.

B—NAIROBI

Sand.—Sand is at present produced in the Athi River, Konza, Ulu and Kajiado areas, and is railed to Nairobi. The present output is about 175,000 cu. ft. per month, and the principal factors limiting its availability at Nairobi are seasonal operations and inadequacy of road and rail transport. The resources are unlimited.

Ballast.—Ballast of black trap type is produced at the rate of about 125,000 cu. ft. per month close to Nairobi. The resources are unlimited and production could be increased according to demand by the installation of additional crushers and by the provision of sufficient labour.

Building Stone.—Building stone is produced to the extent of 400,000 running feet per month. Of this, 100,000 running feet per month is at present being derived from the Government quarries in the Getathura Valley, which it is anticipated will be exhausted of stone which under present conditions is economically extractable, in the early part of 1946. The remainder of the production is derived from quarries in the lower Ruaraka Valley and in the Gatharaini Valley, near Kahawa.

The chief factors limiting availability of the stone are lack of stone dressers, the need for Municipal and District Council Regulations and administrative regulations in the Native Reserve, overburden and the fact that the K.U.R. & H. is unable at present to transport stone for distances under 20 miles. Additional factors are that much of the stone reserves are on private land or in Forest Reserves, and that with present methods of quarrying considerable quantities of stone go to waste.

It is understood that the Commissioner of Mines has submitted to the Development Committee a separate report by the Government Geologist on stone resources of the Nairobi District.

Bricks.—The only brick works within the area at present in production has confined its manufactures to tiles, but with its present equipment is capable of producing 100,000 bricks per month, provided no tiles are made. The works are dependent on rainfall for water supplies, and difficulties are experienced from time to time in obtaining sufficient labour and fuel.

Tiles.—The brick works mentioned above is at present producing about 80,000 per month of Broseley pattern roofing tiles with a covering capacity of 560 tiles per 100 sq. ft. The production could be increased to 125,000 per month with the present equipment, subject to the same limiting factors as apply to bricks.

Cement concrete roofing tiles are also manufactured in Nairobi. The makers state that the present production is 400 per day. It is doubtful whether these tiles could compete in price with imported Mangalore tiles in normal times.

Lime.—No lime is produced in Nairobi, but it is obtained on rail from the Kenya Marble Quarries near Kajiado, from Mombasa and from Homa Bay, via Kisumu. Lime-burners at Kiambu and Muhoroni could supply a small proportion of the requirements. In addition there are limestone deposits at Athi River which could be worked, while there is a possibility that lime may be produced in the near future at Makindu or Mtito Andei.

C—NAKURU

Sand.—Poor quality sand is obtained from the beaches of Lake Nakuru and approximately 19,000 cu. ft. per month is produced at present. It is not suitable for high class concrete work, but has been used for ordinary buildings. The resources are limited.

Ballast.—Hard rock suitable for ballast is available in limited quantities in the near vicinity, but unlimited quantities of soft rock for low grade ballast unsuitable for high class concrete are available.

Stone.—The present output is recorded as about 18,500 running feet per month, but is probably subject to considerable fluctuations as the quarries are worked intermittently according to demand. Although resources of inferior quality stone appear to be plentiful, the possibility of an increase in production will depend on the availability of stone cutters.

Bricks and Tiles.—No bricks or tiles are produced at present, but one company advises that it proposes to set up an experimental brick and tile works with the ultimate object of producing 20,000 to 25,000 bricks per month.

D—ELDORET

Sand.—Suitable sand is available in limited quantities from Hoey's Bridge. The present production is estimated to be about 50,000 cu. ft. per month.

Ballast.—Stone suitable for ballast is available in unlimited quantities. The present production is unknown.

Stone.—Generally there is no building stone available at Eldoret.

Bricks.—Hand-made bricks are being produced by the P.O.W. Camp at Eldoret. The output is about 80,000 bricks per month and could be increased if more kilns were constructed and provided personnel and fuel were made available. The controlling factor is the fuel supply.

Bricks of poor quality are also made by local farmers.

E—KITALE

Sand.—The nearest known supply is at Hoey's Bridge.

Ballast.—Stone suitable for ballast is available in small quantities at distances of three to five miles from town.

Stone.—There is no known supply of building stone.

Bricks.—Inferior quality bricks are at present being manufactured in quantities sufficient to meet the present demand.

Timber.—Several mills operate in the Mount Elgon Forest.

F—KISUMU

Sand.—There are ample resources at German Point, in the Native Reserve, adjacent to the township, and at Kibos, five miles distant by rail. Smaller quantities are available in the Kisat River in the township. The present production is about 25,000 cu. ft. per month.

Ballast.—Unlimited supplies of suitable stone are available. The present production of ballast is about 20,000 cu. ft. per month, but fluctuates according to demand.

Stone.—No suitable building stone is available locally, and at present supplies are obtained from Kedowa and Londiani, where ample resources exist. *Murram Blocks* are produced as a prison industry at the rate of about 400 to 500 per month.

Bricks.—Considerable quantities of fair bricks have been produced in the past, but no figures are available to indicate present production. The limiting factor appears to be fuel supplies.

Lime.—Good quality fat lime is produced near Homa Bay at the rate of about 400 tons per month. It is stated that production could be increased provided additional kilns are erected and if fuel and labour are available.

APPENDIX B

DATA OF THE SUPPLY, AVAILABILITY AND RESOURCES OF BUILDING MATERIALS IN THE LESS POPULATED PORTIONS OF KENYA

(*Note*:—The absence of a materials heading in any section indicates a lack of local supply of that material.)

A—Coast Province

1. *Voi District.*

Sand.—Good quality river sand is available.

Ballast.—Hard stone suitable for ballast is available.

Stone.—Hard building stone, difficult to dress, is available.

Bricks and Tiles.—Bricks and tiles have been manufactured by B.E.A. Corporation and are reported to have been of good quality.

Lime.—No present production, but limestone is available.

2. *Taveta District.*

Sand.—Available.

Ballast.—Stone suitable for ballast is available.

Stone.—Good quality building stone is available.

Bricks and Tiles.—Manufactured by Taveta Sisal Estates.

Lime.—Small quantities of hydraulic lime are produced on sisal estates.

3. *Kilifi and Malindi Districts.*

Sand.—Available.

Ballast.—Coral only is available for ballast.

Stone.—Coral blocks only are available.

Lime.—Coral is available for lime-burning.

Timber.—Timber in small sizes is available in limited quantities from a local saw mill.

4. *Coastal Area South of Mombasa.*

Generally as in section 3.

Timber.—Small quantities of hand-sawn timber are available.

5. *Lamu and Tanaland.*

Sand.—Sand is available.

Ballast.—Coral available, and other stone at Garsen on the River Tana.

Stone.—Coral for blocks is available. Present production is about 7,000 running feet per month.

Lime.—Coral is available for lime-burning.

Timber.—Available, but there are no saw mills.

6. *Kwale.*

Sand.—Available.

Ballast.—Stone suitable for ballast is available.

Stone.—Concrete blocks in general use.

Timber.—Available, but there are no saw mills.

B—CENTRAL PROVINCE

1. *Machakos.*

Nearest point on rail: Konza, 17 miles.

Sand.—Available in large quantities near the township.

Ballast.—No good hard stone for ballast is available, except vein quartz.

Stone.—Poor quality stone is available within eight miles and better quality within 25 miles. Factors limiting production are the availability of labour and transport.

Bricks.—Inferior quality bricks are produced at the rate of about 30,000 per month. Resources of suitable clay near the township appear to be limited.

2. *Kibwezi.*

Sand.—Available.

Ballast.—Ample hard stone for ballast is available.

3. *Limuru.*

Ballast.—Building stone ballast only is available.

Stone.—Good building stone available in unlimited quantities.

Bricks and Tiles.—No longer manufactured.

4. *Kijabe.*

Sand.—Available in limited quantities.

Ballast.—Hard stone suitable for ballast is available within five miles.

Stone.—Stone of inferior quality is available.

5. *Kiambu.*

Nearest point on rail: Nairobi, 10 miles.

Ballast.—Supplies of hard stone suitable for ballast are limited.

Stone.—Unlimited quantities of stone suitable for building occur in the Native Reserve.

Lime.—Limited supplies are available from the Fairview Estate.

6. *Ruiru and Thika.*

Sand.—Available from River Sagana.

Ballast.—Hard stone ballast is not available.

Stone.—Suitable building stone is produced to meet present requirements. The industry is capable of expansion.

Bricks.—Bricks are being produced by the Civil Labour Camp. Present production 45,000 per month.

Tiles.—Tiles are being produced by the Civil Labour Camp. Present production 6,000 per month.

7. *Kitui.*

Nearest points on rail: Thika, 105 miles and Kibwezi, 92 miles.

Sand.—Sand of good quality occurs in unlimited quantities.

Ballast.—Quartz and gneiss only available.

Bricks.—Variable quality bricks are made as required.

8. *Fort Hall.*

Sand.—Available from River Sagana.

Ballast.—Stone suitable for ballast is available within the township.

Stone.—Good quality stone is available. The present output is small but is capable of development.

Timber.—Nearest saw mill at Karatina.

9. *Karatina.*

Sand.—Obtained from Sagana by rail.

Ballast.—Stone suitable for ballast is available within ten miles.

Stone.—At present obtained from Nyeri. Suitable stone is available for quarrying nearer township.

Bricks and Tiles.—Unlikely to be manufactured owing to paucity of fuel.

Timber.—There is a saw mill with a limited output of podo and camphor.

10. *Kerugoya.*

Nearest points on rail: Sagana, 20 miles; Karatina, 25 miles.

Sand.—Available from River Sagana.

Ballast.—Suitable stone is available within ten miles.

Stone.—Inferior quality stone is available but in insufficient quantities for large works. A long road haul is necessary.

Bricks and Tiles.—Their manufacture is a possibility.

Timber.—Nearest saw mill at Karatina.

11. *Nyeri.*

Sand.— Railed from Sagana.

Ballast.—Stone suitable for ballast is available within ten miles.

Stone.—Stone suitable for building is available but is of variable quality. The present production from the P.W.D. quarry is 10,000 running feet per month. Stone of inferior dressing is also produced in small and varying quantities from quarries in the Native Reserve.

Bricks and Tiles.—Brick and tile making is in experimental stages in the Native Reserve and on farms.

Timber.—Limited supplies of podo are available from local saw mills.

12. *Nanyuki.*

Sand.—Limited quantities of pit sand are available but sand is normally obtained at the same cost from Sagana by rail.

Ballast.—Stone suitable for ballast is available within the township.

Stone.—Suitable quality building stone is not available in the vicinity. Supplies are at present railed from Nyeri.

Bricks.—Hand-made bricks are being produced by the P.O.W. camp at Burguret. The production is about 100,000 per month and could be increased if more kilns were constructed.

Timber.—A limited output of podo and cedar is available from a mill near the township. Supplies are also available from Meru.

13. *Meru.*

Railhead: Nanyuki, 55 miles.

Sand.—River sand is available in sufficient quantities from Ngare Ndare, approximately 30 miles distant by road.

Ballast.—Stone suitable for ballast is available within the township.

Stone.—Inferior building stone is available in negligible quantities.

Bricks.—Experimental brick-making is in progress. The result obtained up to the present indicates the possibility of successful production.

Timber.—Available in sufficient quantities from local saw mill, which has a seasoning kiln. Shingles are produced.

14. *Embu.*

Nearest point on rail: Sagana, 25 miles.

Sand.—Obtainable from Sagana.

Ballast.—Stone suitable for ballast is available near the township.

Stone.—Inferior quality stone is available in small quantities. Long road haul.

Bricks and Tiles.—Experimental brick-making is in progress. The present results indicate very favourable prospects for the possibility of production of good quality bricks and tiles.

Timber.—Limited quantities of podo and camphor are obtained from the Karatina saw mill, 30 miles distant by road.

C—MASAI DISTRICT

1. *Kajiado.*

Sand.—Good quality sand is available in large quantities.

Ballast.—Suitable stone is available in plenty.

Stone.—Large quantities of hard stone, difficult and expensive to dress, are available four miles from the township. Flagstones are available in large quantities within two miles of the township.

Bricks.—Inferior quality bricks have been manufactured in the past.

Lime.—Available from Kenya Marble Quarries, eight miles distant by rail.

Timber.—Nearest source of supply is Nairobi.

2. *Narok.*

Nearest point on rail: Kijabe, 65 miles.

Sand.—Transport from Narossura.

Ballast.—Stone suitable for ballast is available.

Stone.—Quarry in operation near township.

Timber.—Small quantity available from Rotian Forest.

D—RIFT VALLEY PROVINCE

1. *Naivasha.*

Sand.—Available in unlimited quantities six miles from township.

Ballast.—Suitable stone is available in unlimited quantities.

Stone.—Available three miles from Naivasha.

Bricks.—Hand-made bricks are being produced by the P.O.W. camp at Melawa. The output is about 80,000 per month and could be increased if more kilns were erected and labour and fuel were made available.

Tiles.—Tiles are also being produced at Melawa P.O.W. camp.

Timber.—There are saw mills on the Kinangop, but normally supplies are obtained on rail from the highlands.

2. *Gilgil.*

Sand.—Obtained from Nakuru.

Ballast.—Suitable hard stone is available within three miles.

Stone.—Suitable stone is available. Two quarries, five miles from the town, are at present in operation.

Bricks and Tiles.—Produced at Melawa—*See* note on Naivasha.

Timber.—There is a saw mill at Ol Joro Orok, 30 miles distant. The supply is limited.

3. *Njoro.*

Sand.—Limited quantities are available in the stream beds, but suitable sand can be made by crushing and washing the local building stone.

Ballast.—Stone suitable for ballast is abundantly available.

Stone.—Fair quality stone is available, but is at present quarried only as required.

Bricks.—Small quantities are made on farms. Mr. J. N. Hopcraft at present produces 25,000 bricks per month, but there is no assurance of continued production. He possesses a brick-making machine.

Timber.—Nearest saw mill at Elburgon.

4. *Elburgon.*

Sand.—Mainly obtained from Nakuru.

Ballast.—Soft stone only available.

Stone.—Small quantities exist in the forest about four or five miles distant. They are worked only as required.

Timber.—Cedar and podo are obtainable from two local saw mills.

5. *Ravine.*

Sand.—Limited quantities are available in stream beds.

Ballast.—Stone suitable for ballast is available.

Stone.—Stone is available and is quarried as required.

Timber.—Cedar and podo are available locally in small quantities. Normally supplies are obtained by rail.

6. *Thomson's Falls.*

Sand.—Normally obtained by rail from Nakuru.

Ballast.—Normally obtained from Nakuru, but hard stone suitable for ballast is available locally.

Stone.—Normally obtained from Nakuru, but small quantities of inferior stone are available locally.

Timber.—There are several mills in the vicinity. Buildings are generally of timber construction with shingle roof.

7. *Rumuruti.*

Railhead: Thomson's Falls, 22 miles.

Sand.—Normally Nakuru sand, obtained from railhead at Thomson's Falls, is used.

Ballast.—Suitable stone is available locally.

Stone.—No stone generally is available, but small quarries exist on Capt. Sykes' and Messrs. Sukelaars' farms.

Bricks.—Bricks have been made in considerable quantities in the past.

Tiles.—Capt. Sykes is reported to have a tile-making machine, but there is apparently no production.

Timber.—Nearest mills at Thomson's Falls.

8. *Kabarnet.*

Nearest point on rail: Eldoret, 60 miles.

Sand.—Sand is scarce and is carried twelve miles to Kabarnet.

Ballast.—Stone suitable for ballast is available.

Stone.—Building stone is found in the area but little has so far been used for construction purposes.

Bricks.—Bricks are manufactured at the Government African School at the rate of 16,000 per month.

Lime.—A poor quality of lime is burnt in small quantities.

Timber.—Limited quantities of hand-sawn cedar and podo are available.

9. *Tambach.*

Nearest point on rail: Eldoret, 28 miles.

Ballast.—Stone suitable for ballast is available.

Stone.—Permanent buildings are made of rough stone, of which there is an abundance, using a local clay for mortar, pointed with cement. The walls so made are reported to be of not very good quality.

Bricks.—Bricks are made by the A.I.M., Kapsowar, in small quantities for their own use.

10. *Kapsabet.*

Nearest point on rail: Kisumu, 36 miles.

Sand.—Sand is available.

Ballast.—Stone suitable for ballast is available.

Stone.—Stone is available in the north and east parts of Nandi, but has not yet been worked.

Bricks.—The P.W.D. and Prisons each make 20,000 per month. It is reported that bricks can be made anywhere in the reserve as deposits of suitable clay and fuel are available.

E—NYANZA PROVINCE

1. *Londiani.*

Sand.—There is no local supply; railed from Kibos.

Ballast.—Small outcrops of hard rock suitable for ballast occur in and near the township.

Stone.—Good building stone can be quarried in town, on adjoining farms and in the Forest Reserves.

Lime.—The nearest source of lime is Legetet Estates, Muhoroni; the production is intermittent, but in January, 1945, was 145 tons. It is stated that production could be considerably increased provided fuel and labour are available. Normally supplies are obtained on rail from Kisumu or Nairobi.

Timber.—Several mills operate in the North Tinderet Reserve, eight miles from the township.

2. *Kericho.*

Nearest point on rail: Lumbwa, 21 miles.

Sand.—Obtained from Kibos or by road from Sondu, 30 miles distant.

Ballast.—Outcrops of suitable stone occur in the valley around the township.

Stone.—Normally obtained from Kedowa.

Bricks.—Brick-making is in an experimental stage. Bricks are also made by farmers for their own use.

3. *Sotik.*

Nearest point on rail: Lumbwa, 35 miles.

Sand.—Inferior sand is available in the river. Good sand is obtained from Kibos or Sondu.

Ballast.—Stone suitable for ballast is available in outcrops near the river.

Stone.—Suitable building stone is available approximately eight miles from town.

4. *Kisii.*

Nearest point on rail: 79 miles; nearest port on Kavirondo Gulf, 28 miles.

Sand.—Good sand is obtained from the Awach River, 20 miles distant. Inferior sand is available in nearer rivers.

Ballast.—Stone suitable for ballast is available.

Stone.—No suitable building stone available.

Bricks.—A local Government industry can produce 60,000 bricks per month.

5. *Kakamega.*

Nearest points on rail: Kisumu, 32 miles; Butere, 28 miles.

Sand.—Poor quality sand is found in most rivers. The Isiokha River, on the township boundary, yields a sand which is of fair quality if well washed.

Ballast.—Stone suitable for ballast is available.

Stone.—No suitable building stone is available.

Bricks.—The L.N.C. and individual natives produce approximately 50,000 bricks of inferior quality per month. Mr. J. H. D. Kelly and the Rosterman Gold Mining Company also produce bricks, principally for their own use. A Government brick industry exists and is being developed.

Tiles.—Mr. J. H. D. Kelly and the Rosterman Gold Mining Company produce roofing tiles in small quantities.

Timber.—The nearest saw mills are those of Mr. J. H. D. Kelly and the Kavirondo Gold Mines on the Kakamega-Kaimosi Road. There are also two mills at Kaimosi. The Kakamega Forest is capable of considerable development.

F—Turkana District

1. *Kapenguria.*

Railhead: Kitale, 25 miles.

Sand.—Poor quality sand is available near Kapenguria. Good sand occurs at mile 12 on the Lodwar Road in the River Mutembur at the foot of the escarpment. It is suggested that sand could also be obtained from the River Suam near Kongelai, 25 miles from Kapenguria.

Ballast.—Ballast is in fairly plentiful supply at quarries near the township.

Stone.—No stone suitable for dressing is available, but unlimited quantities of random rubble are available near by.

Bricks.—Bricks are burnt as required as a boma industry. Fuel and the raw materials required are available in unlimited quantities. The output at present fluctuates according to demand, but it is reported that manufacture could be increased to satisfy future requirements for development.

Timber.—Sawn timber is at present obtained, via Kitale, from saw mills on Mount Elgon.

2. *Lodwar.*

Railhead: Kitale, 207 miles.

Sand.—Plentiful in the river near the town.

Ballast.—Stone for ballast is plentiful.

Stone.—No known supply.

Bricks.—Burnt as a *boma* industry The long hauls on fuel make production expensive.

Timber.—Obtained from Kitale.

G—NORTHERN FRONTIER DISTRICT

1. *Isiolo.*

Railhead: Nanyuki, 51 miles.

Sand.—Sand is available in reasonable quantities from the River Isiolo, two miles distant.

Ballast.—Suitable stone is obtainable within a reasonable distance.

Stone.—No suitable building stone is available. It is considered that concrete block structures would be the most suitable building material for this station.

Bricks.—Bricks can be made but difficulties of supply of fuel and water would be considerable.

Tiles.—The manufacture of cement tiles is being investigated on site by the P.W.D.

Lime.—The nearest known deposit of limestone is at Archer's Post, 35 miles distant by road. The possibility of developing this deposit is being investigated.

Timber.—Nearest saw mill at Meru, 30 miles distant by road.

2. *Wajir.*

Railhead: Nanyuki, 275 miles.

Sand.—There are unlimited supplies in the boma area.

Ballast.—Inferior quality stone is available for ballast, but there is a possibility of the existence of stone suitable for reinforced concrete ballast, though the site is not yet located.

Stone.—Stone suitable for dressing to 12 in. coursed rubble walls is obtainable within two miles of the boma.

Lime.—There are limestone deposits within a mile of the boma. Fuel must be hauled from ten miles distant.

Timber.—Nearest mills at Meru, 255 miles by road.

Water.—Not plentiful and is obtained from wells.

3. *Mandera.*

Railhead: Nanyuki, 500 miles.

Sand.—Obtainable on site in unlimited quantities.

Ballast.—Stone suitable for ballast obtainable five miles from the boma.

Stone.—Suitable for rough-dressed coursed and random rubble walls of 12 in. thickness is obtainable about five miles from the boma.

Lime.—There is a deposit of limestone within one mile of the boma. Fuel must be hauled ten miles.

Timber.—Nearest mills at Meru, road haul 480 miles.

4. *Moyale.*

Railhead: Nanyuki, 386 miles.

Sand.—Obtainable about one mile from boma.

Ballast.—Stone available but further investigation is necessary if ballast for reinforced concrete work is required.

Stone.—No suitable building stone available.

Lime.—There is a limestone deposit five miles across the Abyssinian border, but it may not be possible to arrange facilities for its use. Prospecting for possible deposits on the Kenya side of the border is proceeding.

Timber.—Nearest mills at Meru, road haul 266 miles. Marsabit may prove to be an alternative source of supply, which would reduce the road haul to 149 miles.

5. *Marsabit.*

Railhead: Nanyuki, 230 miles.

Sand.—Nearest known deposit is 20 miles distant.

Ballast.—Stone is available.

Stone.—Stone reasonably suitable for building purposes is available two miles from the boma.

Bricks.—It is probable that bricks could be manufactured. Fuel is plentiful.

Lime.—The nearest known deposit is at Archer's Post, 140 miles distant, but there are possibilities that nearer deposits exist.

Timber.—Nearest saw mill at Meru, 210 miles distant. The provision of saw benches would enable the plentiful local supplies of timber to be utilized.

6. *Garissa.*

Nearest point on rail: Thika, 245 miles.

Sand.—Available in stream beds locally.

Ballast.—Quartz gravel is obtainable about six miles along the Libri Road.

Stone.—No suitable building stone is available.

Bricks.—Bricks are at present manufactured by the D.C.

Timber.—No sawn timber is available and there are no supplies of timber generally except for fuel and small quantities of poles from the banks of the River Tana. Mangrove poles can be obtained from Lamu, 170 miles distant.

APPENDIX C

REPORT ON THE PAST PRODUCTION AND FUTURE POSSIBILITIES OF TIMBER SUPPLIES IN RESPECT OF THE WHOLE OF KENYA

A—The following data were supplied by Mr. H. W. Gill, Assistant Timber Controller:—

1. The *present monthly output* of building and joinery softwood timber is about 5,700 tons of 50 cu. ft.

2. There is no possibility that production will be stepped up after the war, but it is anticipated that when the present military demand ceases there will be ample timber for all local needs and, in addition, an exportable surplus notwithstanding the cessation of production of a number of temporary wartime cutters.

3. *Past Production* (expressed in tons of 50 cu. ft.):—

	Total	Softwood	Hardwood
1942	61,129	50,272	10,857
1943	76,714	68,812	7,902
1944	87,020		

4. Cedar roofing shingles, included in the softwood deliveries quoted above, amounted to 1,790,000 in 1944, equal to about 542 tons of 50 cu. ft. This figure is an estimate only. Such a number of shingles would cover about 248,000 sq. ft. of roofing.

5. Seventy per cent of the present production is consigned to the Army, the remaining 30 per cent to civilian users, but it is estimated that approximately one half of this is utilized in the fulfilment of service contracts.

B—The Conservator of Forests gave the following information:—

1. *Production of timber from forest reserves*, calculated from royalty receipts:—

1938 966,000 cu. ft. in log.
1939 1,100,000 cu. ft. in log.
1943 4,165,000 cu. ft. in log.
1944 Estimated about 5,000,000 cu. ft. in log.

The annual production from 1935 to 1938 was roughly equal to that for 1938.

2. *Fuel.* In 1943 22½ million tons of wood fuel were produced, of which about 14¾ million tons were consumed by the Railway. The Railway demand will decrease greatly as soon as coal is freely obtainable from South Africa. The Railway administration estimates officially that they will normally require only 2½ million cubic feet per annum in the post war period.

3. *Replanting* is proceeding at a rate which will ensure, when the timber is mature, that supplies will be available at 20 times the pre-war standard of production. The rate of planting could readily be still further increased if warranted.

4. *Production during the next five years.* It is anticipated that production will be maintained at its present level for the next twelve months. The rate could be kept up for a longer period, but in order to ensure that a sustained

supply can be maintained until ample plantation timber matures, it is considered that production should be cut down to 3,000,000 cu. ft. per annum. If military requirements have ceased this will provide three times the average pre-war requirements and double that of the 1927-1928 boom period.

APPENDIX D

DATA ON THE PRODUCTION OF MISCELLANEOUS BUILDING MATERIALS IN KENYA

A—*Makutis.*—Produced in the Coast area at the rate of about 210,000 per month, but fluctuates according to the season. Suitable for temporary roofing only.

B—*Asbestos Cement Sheets.*—

1. Small quantities are being produced by Messrs. Ryatt & Co., Nairobi.

2. Messrs. Concrete Utilities, Nairobi, are carrying out experiments in the production of asbestos-cement sheets.

3. Messrs. Manufactures (E.A.) produce at present 100,000 to 120,000 sq. ft. per month of four-foot square asbestos-cement sheets. It is reported that under present conditions the output could be increased to 200,000 to 250,000 sq. ft. per month, and that in the first five post-war years it will be possible to produce 10,000,000 sq. ft. of sheets without additional equipment. The sheets can be cut to yield tiles and it is intended eventually to produce asbestos board for interior use and corrugated asbestos-cement sheets. The company estimates that it will be able to sell the four-foot square sheets for 50 cents per sq. ft. after the war.

C—*Wall Boards and Roofing.*—

1. Messrs. Concrete Utilities are producing about 400,000 sq. ft. per month of papyrus wall board and bituminized roofing, which is consumed by the Army. The production is dependent on the amount of bitumen available.

2. Wall boards are produced by the Industrial Management Board at Thika. Plant has now been erected which is capable of producing 250,000 sq. ft. per month of 4 ft. sq. sheets of compressed fibre board suitable for ceiling and wall boards. It is anticipated that production will commence in the near future.

3. The Muvera Estates, Thika, are experimenting with the production of split bamboo and bituminized roofing.

D—*Three-ply.*—A Nairobi firm has begun to manufacture three-ply wood, but has undertaken to offer its entire output to the Army.

E—*Gypsum.*—Gypsum, both raw and calcined, is produced by Mr. E. Powell, in the Garissa District. The deposits contain considerable reserves and are situated on the Bura Road about 25 miles south of Garissa and on the Thika–Garissa Road, about 200 miles east of Thika, so that transport is a costly item in the supply of this mineral. The present price of crude pink gypsum is about Sh. 109 per ton f.o.r., Thika, which is not competitive with pre-war imported deliveries. The production in 1944 was 250 tons. In addition 40 tons of white gypsum were produced for the manufacture of plaster of paris and chalks. The cost of the plaster of paris landed at Nairobi is at present of the order of £35 per ton.

Appendix 5

REPORT OF THE SUB-COMMITTEE ON COMMUNICATIONS

We were appointed a Sub-committee of the Development Committee to consider the question of communications. Mr. George Tyson replaced Lieut.-Colonel Lord Francis Scott, who was unable to retain his membership, and the Hon. S. V. Cooke represented the Hon. A. Vincent during the latter's absence from the Colony. We now submit our Report.

2. Our first consideration was whether the development of Kenya necessitated the provision of additional railways. The Committee had before it the report prepared for the Governors' Conference by the General Manager of the Kenya and Uganda Railways and the General Manager of the Tanganyika Railways. We were in general agreement with the conclusions reached by the two General Managers and do not consider, so far as the development of Kenya is concerned, that there is any immediate need for railway extensions in Kenya. Whilst it is desirable that the two railway systems should be connected, we do not think that the construction of a link between the two systems would have any material effect on the development of Kenya, but we hope that the road link between Morogoro and Korogwe in Tanganyika will be maintained in the post-war period.

In considering the question of railway development we came to the conclusion that where it could be proved to be in the public interest that there should be realignment of any section of the Kenya and Uganda Railways, such realignment should be carried out because of the advantages to be derived both from the economic and development points of view and from the aspect of providing additional scope for employment.

3. We then considered the question of roads and we endorsed the recommendations of the Sub-committee of the Central Roads and Traffic Board in regard to a road programme for Kenya. This report* of the Sub-committee is included in Volume I, Section (9) of the memoranda submitted for our consideration. We also considered the question of radial and circular roads for the development of tourist traffic and we are in general agreement with the policy set out in the letter addressed by the Secretary of the Development Committee to the Secretary of the East African Publicity Association, and we strongly recommend that radial and circular roads giving access to places of interest from a tourist point of view should be given a high priority and should be constructed to a high standard. We realize that the Colony is not at the moment in a position to encourage tourist traffic, but we do recommend early action in regard to consideration of these roads otherwise other countries will be in advance of this country in the encouragement of tourist traffic.

We are unable to make specific recommendations as to which areas should be served by these roads as no list is available of the places of interest to tourists, but we do not consider that we ought to delay the submission of our report on that account. We think it sufficient to recommend the provision of suitable roads to all places of interest and that, when the list of such places has been prepared, the main Development Committee should recommend a sum of money to be made available for the provision of these roads and the selection and alignment of such roads can be handled by the technical departments concerned. In connexion with the road policy, we strongly recommend that any aerial survey and other maps which have been prepared by the Army in East Africa should be made available to the Civil Government. We further recommend that such maps should be properly indexed and recorded and preserved in a suitable place.

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* Reproduced at the end of this Appendix.

We also consider that all Army equipment which would be of value in connexion with road development should be made available to the Civil Government at the earliest possible moment.

We were advised that the Member for Development and Reconstruction had gone into the question of road plant whilst in England and that Mr. Campbell of the Public Works Department, who would shortly be visiting England, would be available for consultation and advice, and we think no further comment is necessary in this connexion, but we recommend that Government should take advantage of consultation with those members of private firms who are familiar with the supply and operation of road-making machinery.

4. One matter we consider of major importance in connexion with the execution of development plans, and that is the question of suitably qualified technical planning staff and we wish to record our opinion that, in view of the urgent need for technical staff to prepare plans for road and other programmes, the present delay in obtaining such staff must inevitably have a serious effect on the rate of absorption of demobilized soldiers, and we strongly recommend that, pending the demobilization of men from the Army, every effort should be made to obtain suitably qualified men from the forces by way of secondment in order that the road and other programmes may be implemented without delay. We also consider and recommend that an attempt should be made to recruit staff from India and that recruitment should not be restricted to the United Kingdom and South Africa, and that the necessary steps should be taken to send a responsible officer to India in an endeavour to recruit staff there.

5. We then turned to the consideration of air transport. We were advised that at a recent meeting of Legislative Council the proposals for establishing local air services were approved and that it is probable that an Order in Council will shortly be published. We do not think, therefore, any further action is required on this question.

6. Having dealt with the general questions of development of the three main forms of transport, we then turned our attention to the question of the control of transport. We consider that the present type of control exercised over railways, ports and inland water transport, is satisfactory and that the proposed arrangements for the control of air transport are also satisfactory. In regard to the licensing system for road transport, we do not recommend any change. The licensing system was only introduced just before the outbreak of war and it is desirable that its operation under peace-time conditions

should be given a fair trial, but a number of us felt that if the development of Kenya is to be assured, there is something lacking in regard to co-ordination of all forms of transport and, by a majority, we recommend the setting up of a co-ordinating authority with an advisory council, which would be representative of all forms of transport as well as of the public and users, to co-ordinate the policies in regard to road, rail, air and coastal shipping. We include the latter as we consider that some control over coastal shipping is essential to advance the development of Kenya. We further recommend that steps should be taken to provide machinery for the enforcement of decisions of the Road Transport Licensing Board. We are not at all satisfied that the Board's decisions are effectively carried out and there is reason to suppose that the law is being defied. Under this question of the control of transport, we considered the specific proposals put forward by Kenya Bus Services, Limited, but we came to the conclusion that no good purpose would be served by our commenting on these proposals. We consider that this is a matter which might well receive the consideration of the co-ordinating authority which we recommend.

7. On the question of telecommunications, which embraces the activity of the department under the control of the Postmaster General, we were informed that no detailed plans had yet been prepared but it was suggested that the development of telecommunications might involve an expenditure of something of the order of £600,000. We came to the conclusion that considerable development of the telecommunications system was most desirable for the development of Kenya. We also came to the conclusion that, in order to facilitate long-term planning and the development of the services controlled by the Postmaster General, the Department should be reorganized on the lines of a self-financing department, similar to that of the Kenya and Uganda Railways, with its own capital account and renewals fund. We consider that such a reorganization would have a material benefit in developing Kenya and would assist the Government in timing capital expenditure as part of an employment policy. We realize that this recommendation also involves the setting up of an advisory council for telecommunication services and, if our recommendation is adopted, we consider that one of the first duties of such an advisory council would be to formulate a long-term plan for the development of telecommunication services. These recommendations do not necessarily mean that no contribution should be made by the Post Office to general revenue, and we noted the new arrangements which have been made in the United Kingdom whereby a fixed proportion of the real profit accruing to the Post Office is transferred to the general revenue of the State, and we consider some such similar scheme could be devised for Kenya. But we would emphasize that the contribution should be from real profit and not from the surplus of revenue over current expenditure.

We would also like to emphasize that the arguments which we have already advanced in regard to the provision of technical planning staff for development of the road policy apply with equal force to the development of the telecommunication system and we regard it as a matter of the highest importance that vigorous attempts should be made to obtain a planning staff of technical experts for the Posts and Telegraphs Department at an early date.

8. Regarding specific plans included in the memoranda submitted for our consideration, we came to the conclusion that no good purpose would be served by a detailed examination and specific recommendations in regard to each of these particular plans. We have assumed that in due course the main Development Committee will decide what sums will be available for the development of communications and that when this figure is known, it will be possible for the technical departments to submit their views on the priority which should be accorded to the various plans put forward. Without this information, and without any technical knowledge of the points put forward in the specific plan, we felt that we could not advise the adoption, rejection, or modification of the various plans put forward in the memoranda referred to.

R. E. ROBINS.
Chairman.

G. A. TYSON.
S. R. BOYD.
G. P. WILLOUGHBY.
R. B. PANDYA.
S. V. COOKE.
Members.

K. W. SIMMONDS, *Secretary.*
13th September, 1945.

REPORT BY SUB-COMMITTEE OF CENTRAL ROADS AND TRAFFIC BOARD

ROAD PROGRAMME—POST-WAR DEVELOPMENTS

MAIN TRUNK ROADS

A Sub-committee of the Central Roads and Traffic Board, which had before it a memorandum by the Road Engineer, recorded on 5th June, 1944, as follows:—

"1. *Post-war Road Programme*—Ref. Min. No. 367 (*e*) (iii) of the Central Roads and Traffic Board meeting of the 12th April, 1944.

The Sub-committee agreed that it was not called upon to make a recommendation on the standard to which post-war roads should be brought, nor to the specification which should be accepted as suitable. A memorandum, No. A.1562/7/1/48/10 of the 29th May, 1944, prepared by the Road Engineer was, therefore, considered by the Sub-committee in the light of the foregoing.

The General Manager, Kenya and Uganda Railways and Harbours, was of the opinion that the road system of the Colony should be considered in relation to the whole of the communications of the Colony and the other East African territories by road, rail and air. A joint report on rail communications, prepared in collaboration with the General Manager, Tanganyika Territory Railways, had been submitted to the Governors' Conference. This did not envisage the construction of new railways in Kenya, but it recommended a system of State-owned road transport linking up certain districts with the railway. It was essential that there should be a good road system and that strict control should be maintained over its use.

The Road Engineer, in explanation of his memorandum, stated that what he termed 'national roads' may need a higher standard than traffic warranted, but this did not necessarily mean that roads designated as 'trunk roads' should not be of as high or even higher standard than a 'national road'. This would be governed by the amount of traffic passing over the road.

The Sub-committee, after consideration, agreed that the classification 'national road' should not be used, and that the name 'main trunk road' should embrace not only the so-called national roads, but also the major trunk roads. The Sub-committee thereupon recommended that the following roads named in the memorandum should be classified as main trunk roads in order of priority noted:—

MAIN TRUNK ROADS

Class I

1. Namanga-Busia.
2. Nairobi-Nanyuki.
3. Nakuru-Eldoret-Kitale. (The actual alignment to be left open for decision on survey.)

Class II

4. Nairobi-Mombasa. (The standard of construction to be given consideration on re-survey as it is possible that a saving in mileage is possible, thus allowing for a higher standard for the money available.)
5. Nanyuki-Thomson's Falls-Nakuru. (The military are anxious that this road be constructed and have a road unit available.)
6. Kisumu-Kakamega-Kitale. (This road taps a large production area.)
7. Lumbwa-Kericho-Sotik.
8. Kisumu-Sondu-Oyugis-Kisii.
9. Mombasa-Malindi. (It was considered that the road onwards to Mambrui-Lamu should be at a lower category as the best communication was by sea. Government-operated vessels were contemplated.)
10. Sagana-Embu-Lewa.
11. Nanyuki-Isiolo. (Of strategic importance.)
12. Yala-Mumias.
13. Kitosh-Malakisi-Malaba. (A large agricultural production area is served.)
14. Kendu-Kisii.

For the following roads, which are of low classification, no order of priority was recommended:—

Class III **TRUNK ROADS**

Kibwezi-Kitui-Thika. (On present evidence the Sub-committee considered this should not be classed as a main trunk road.)

Ndolo's Corner-Garissa. (On present evidence the Sub-committee considered this should not be classed as a main trunk road. This appears to be purely an administration road.)

Muhoroni-Songhor-Kapsabet.

Chweya's (Kisumu-Kakamega)-Kapsabet-Eldoret.

Kakamega-Mumias-Busia.

Moshi-Voi.

Kisii-Suna.

Sotik-Kisii.

Lolgorien-Narok-Kijabe. (This road recommended as last on list in Class III.)"

COMMENTS BY DIRECTOR OF PUBLIC WORKS

2. The above recommendations are acceptable, but due to the fact that investigations and surveys, which are not possible at present, may result in shortening of the routes, with a consequent saving in cost, the estimates given below will be the subject of revision and detailed estimates in due course will be prepared.

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3. Again, the estimates of cost must in due course be considered in the light of post-war costs, one of the heaviest items being the cost of bitumen, which at present is double the pre-war cost, and a reduction in the price will no doubt be made, particularly when competitive tendering is possible. It is also likely that lower prices will accrue in respect of the supply of materials and for contracts for works when contractors and suppliers are in a position to tender under normal conditions. Labour costs are likely to remain high after the war, but it is hoped that this will be neutralized by obtaining a greater outturn of work.

4. Dealing with the roads in the order given above, the probable costs will be as follows:—

Class I.—1. *Namanga-Busia.*—This is the main artery from Tanganyika and the south to Uganda and the north.

Section 1. *Namanga-Nairobi*: 110 *miles.*—The formation and permanent bridges and culverts have been constructed at the expense of the War Department, and a light surfacing has also been laid. The surfacing cannot withstand the heavy traffic, mostly military, that at present uses the road, and on the Nairobi-Athi section a light bituminous treatment is being laid. It is probable that with a reduction in traffic in the post-war period a light bituminous treatment will be sufficient to withstand the traffic, and it may happen that a cheap form of surfacing may be possible at a later stage. Heavy treatment is, however, not considered necessary at present.

The amount proposed for light bituminous treatment is £900 per mile; for the 110 miles, £99,000.

Section 2. Nairobi-Limuru: 15 *miles.*—The new alignment via Kabete-Kikuyu has been accepted, and the surface as far as Kabete has been surfaced with a light bituminous treatment which will probably require replacement with a heavier treatment in due course.

For the remaining 15 miles of new alignment, heavy bituminous treatment is proposed at a cost of £3,000, which figure includes bridging and culverts.

Estimated cost: £45,000.

Section 3. *Limuru-Nakuru.*—Provision is already allowed for this section.

Section 4. *Nakuru-Busia.*—The survey is at present being carried out from Nakuru. The tie points are Mau Summit, Ahero, Kisumu and Busia. Drastic realignments are visualized, and a considerable saving in mileage will probably result. The distance involved is 170 miles, and for the first 50 miles from Nakuru bituminous treatment is provided, and the remaining length will be treated in such a manner that bituminous treatment can be added at a later date. Allowance is also made for the standard of certain sections having already been raised.

The probable costs will be as follows:—

	£
50 miles at £3,000 per mile ...	150,000
30 miles at £900 per mile ...	27,000
30 miles at £1,200 per mile ...	36,000
60 miles at £1,500 per mile ...	90,000
Total ...	£303,000

Abstract of Probable Cost: *Namanga-Busia*

	£
Section 1	99,000
Section 2	45,000
Section 3	—
Section 4	303,000
	£447,000
Add 20 per cent contingencies, staff and major plant ...	89,400
	£536,400
Say	£536,000

Class I.—2. *Nairobi-Nanyuki-Isiolo.*—It will be noted that I have added Isiolo to this section to provide reasonable communication from railhead at Nanyuki, from where most of the stores for the Northern Frontier District are drawn. It is considered that all sections of the road from Thika to Isiolo should receive some form of bituminous treatment.

Section 1. *Nairobi-Thika.*—Already provided in road programme.

Section 2. Thika-Sagana: 35 *miles.*—A reconnaissance for realignment has been made, and a detailed survey is in hand. 35 miles at £3,000 per mile, £105,000.

Section 3. Sagana-Nanyuki via Nanyuki By-pass: 68 *miles.*—68 miles light treatment at £1,200 per mile, £81,600.

Section 4. Nanyuki-Isiolo: 50 *miles.*—Approximately 14 miles to Timau have already been treated with bitumen, and widening is in progress. Allow 36 miles at £1,200 for similar treatment, £43,200.

Abstract of Cost: *Nairobi-Nanyuki-Isiolo*

	£
Section 1	—
Section 2	105,000
Section 3	81,600
Section 4	43,200
	£229,800
Allow 20 per cent for staff, major plant and contingencies	45,960
	£275,760
Say:	£276,000

Class I. 3. *Nakuru-Eldoret-Kitale.*—The route out of Nakuru will be common to this road and the Nakuru-Busia road. The length involved for treatment is 115 miles. Light bituminous treatment is proposed at a cost of £1,500 per mile—

	£
Say	172,500
Add 20 per cent for staff, major plant and contingencies	34,500
	£207,000

Main Trunk Roads—Class I—Summary

Collecting the costs given above the probable costs of main trunk roads, Class I, will be as follows:—

	£
1. Namanga-Busia	536,000
2. Nairobi-Nanyuki-Isiolo	276,000
3. Nakuru-Eldoret-Kitale	207,000
	£1,019,000
Carry to Summary—say	£1,020,000

TRUNK ROADS—CLASS II

4. *Nairobi-Mombasa (Direct Road)*.—Allowing for sections already dealt with, the distance is 293 miles.

I am not at all certain that bitumen treatment can be justified for the whole length at present, but I do think that such treatment is desirable from Mombasa to Voi, where the traffic forks to Taveta.

Allow bituminous treatment for 90 miles for such lengths that have not been treated:—

	£
(*a*) 90 miles at £1,500 per mile	135,000
(*b*) Allow for further treatment and realignments of the remaining 203 miles at £200 per mile to bring the whole road up to all-weather standard ... ... say	41,000
	£176,000
Allow 20 per cent contingencies, staff and major plant ...	35,200
	£211,200
Carry to Summary—say	£211,500

5. *Nanyuki-Thomson's Falls-Nakuru*.—This road has been dealt with in the report regarding roads in District Council areas, and the War Department are at work on the Nanyuki-Thomson's Falls-Gilgil sector, for which a Government contribution of £5,000 has been asked.

No provision, therefore, is required unless at a later date the road is of such importance that bituminous treatment is justified.

6. *Kisumu-Kakamega-Kitale*.—(*a*) Owing to the heavy traffic and difficulty of maintaining the Kisumu-Kakamega section, a bituminous treatment on the existing surface is essential to the full width of 18 feet of 30 miles, at £1,200 per mile—£36,000.

(*b*) *Kakamega-Kitale*: 75 *miles*.—Improvements with minor realignments and replacement of temporary and semi-permanent bridges at £300 per mile	£22,500
Add for (*a*) above	36,000
	£58,500
Add 20 per cent for contingencies, staff and major plant	11,700
Carry to Summary	£70,200

7. *Lumbwa-Kericho-Sotik*.—(*a*) The road is bituminized between Lumbwa and Kericho, but if a road transport service is to be instituted, which is likely, it will be necessary to widen out the 8 ft. width to 18 ft. and to improve still further the sharp and dangerous bends. Special treatment will also be required on the Lumbwa Hill.

Allow 21 miles at £1,000 per mile—£21,000.

(*b*) *Kericho -Sotik.*—Provision for bituminizing the major portion of this road has been made and the work is in hand. The balance required is to be included in the Draft Estimates for 1945.

Provision	—
To be carried forward to summary	£21,000
Allow 20 per cent for contingencies, staff and major plant	4,200
	£25,200
Carry to Summary—say	£25,000

8. *Kisumu-Sondu-Oyugis-Kisii.*—Section Kisumu-Ahero is included under Class I, 1, above. Distance involved 59 miles.

Allow only for improvement of existing surfacing, replacement of bridges, drainage, etc., at £300 per mile	£17,700
Say	£18,000
Allow for special treatment in flood areas between Ahero and Sondu	£4,000
	£22,000
Allow 20 per cent for staff, contingencies and major plant	4,400
	£26,400
Carry to Summary—say	£26,500

9. *Mombasa-Malindi*: 78 *miles.*

(*a*) Allow £1,000 per mile for light bituminous treatment, which is all that I think can be justified at present	£78,000
(*b*) Allow for bridge to replace ferry service at Shimo-la-Tewa (A very tentative figure only)	10,000
(*c*) Allow for alternative route now installed to avoid Takaungu Causeway	15,000
	£103,000
Allow 20 per cent for staff, contingencies and heavy plant	20,600
	£123,600
Carry to Summary—say	£124,000

9A. Allow for general improvements, coast produce-carrying roads, inclusive of Mombasa-Tanga road	£100,000

10. *Sagana-Embu-Lewa*: 142 *miles.*—Allow for general improvements to existing surface and replacement of temporary and semi-permanent bridges at £250 per mile

porary and semi-permanent bridges at £250 per mile	35,500
Allow 20 per cent for staff, contingencies and major plant	7,100
	£42,600
Carry to Summary—say	£43,000

11. *Nanyuki-Isiolo.—Allowed under Class I above.*

12. *Yala-Mumias*: 21 *miles.*—Allow for improving existing surfacing and replacement of bridges, extra drainage, etc.

21 miles at £400 per mile	£8,400
Add 20 per cent for staff, contingencies and major plant	1,680
	£10,080
Carry to Summary—say	£10,000

13. *Kitosh-Malakisi-Malaba*: 49 *miles.*—Allow £300 per mile for improvements to existing surface, minor realignments, and improvements to bridges and drainage

... ...	£14,700
Say	£15,000
Allow 20 per cent for staff, contingencies and major plant	3,000
Carry to Summary ...	£18,000

14. *Kendu-Kisii*: 28 *miles.*—As before allow for improvement of surfacing, bridges and drainage at £300 per mile

...	£8,400
Add 20 per cent for staff, contingencies and major plant	1,680
	£10,080
Carry to Summary—say	£10,000

Trunk Roads—Class II—Summary

	£
4. Nairobi-Mombasa	211,500
5. Nanyuki-Thomson's Falls-Nakuru (*vide* remarks above) ...	—
6. Kisumu-Kakamega-Kitale	70,200
7. Lumbwa-Kericho-Sotik	25,000
8. Kisumu-Sondu-Oyugis-Kisii	26,500
9. Mombasa-Malindi	124,000
9A. Coast produce-carrying roads, inclusive of Tanga road (not dealt with by Sub-committee of Central Roads and Traffic Board)	100,000
10. Sagana-Embu-Lewa	43,000
11. Nanyuki-Isiolo (*vide* remarks above)	—
12. Yala-Mumias	10,000
13. Kitosh-Malakisi-Malaba	18,000
14. Kendu-Kisii	10,000
	£638,200
Carry to Summary ...	£638,000

TRUNK ROADS—CLASS III

(*a*) *Kibwezi-Kitui-Thika*: 186 *miles.*

(1) The Kibwezi-Kitui section is 93 miles in length, and owing to its importance as judged by me I allow only £100 per mile for improved surfacing and drainage	£9,300
(2) *Kitui-Thika*: 93 *miles.* This road is of greater importance than (*a*) (1) above, but a considerable length was improved when the Thika-Garissa road was in progress. Allow £150 per mile for further improvements	13,950
	£23,250
Add 20 per cent for staff, contingencies, etc. ...	4,650
	£27,900
Carry to Summary—say	£28,000

(*b*) *Ndolo's Corner-Garissa*: 150 *miles.*—This is a strategic road commenced prior to the outbreak of war and completed during the war. There are many temporary bridge structures. The road carried very heavy traffic during the East African campaign, but this has reduced considerably now. The advantage of the road is that it forms a rapid line of communication with Garissa and from there to Garsen.

A tentative figure of £100 per mile is allowed which must be the subject of revision if the road is considered of such importance as to justify even this low expenditure	£15,000
Allow 20 per cent as before for staff, contingencies, etc. ...	3,000
Carry to Summary ...	£18,000

(*c*) *Muhoroni-Songhor-Kapsabet*: 42 *miles.*—Allow for improved surfacing, drainage, etc., at £200 per mile ...	£8,400
Add 20 per cent as before	£1,680
	£10,080
Carry to Summary—say	£10,000

(*d*) *Chweya's* (*Kisumu-Kakamega*)-*Kapsabet-Eldoret*: 41 *miles.*—Allow for improved surfacing, drainage, etc., at £200 per mile	£8,200
Add 20 per cent as before	£1,640
	£9,840
Carry to Summary—say	£9,800

(*e*) *Kakamega-Mumias-Busia*: 60 *miles.*—

Part will be common to Class I, Item 1.

Allow £500 per mile for improvements, surfacing, realignments and replacements	£30,000
Allow 20 per cent as before	£6,000
Carry to Summary ...	£36,000

(*f*) *Moshi-Voi* (*Allow Taveta-Voi only*): 75 *miles.*

Traffic may increase with irrigation activities at Taveta, but traffic from Moshi to Voi is unlikely to be heavy.

Allow £400 per mile for improved surfacing, realignments, and replacement of bridges	£30,000
Add 20 per cent as before	£6,000
Carry to Summary	£36,000

(*g*) *Kisii-Suna*: 47 *miles.*

Allow £200 per mile for improved surfacing and bridging	£9,400
Add 20 per cent as before	£1,880
	£11,280
Carry to Summary—say	£11,500

(*h*) *Sotik-Kisii*: 34 *miles.*

Carries fairly heavy traffic from Native Reserve to Kericho District.

Allow £300 per mile for improved surfacing, minor realignments and bridging	£10,200
Add 20 per cent as before	£2,040
	£12,240
Carry to Summary—say	£12,000

(*i*) *Lolgorien-Narok-Kijabe*: 127 *miles.*

A considerable amount of realignment is required on the Kijabe-Narok section, and in fact only a track exists at present.

Allow £500 per mile for realignments, surfacing and bridging	£63,500
Add 20 per cent as before	£12,700
	£76,200
Carry to Summary—say	£76,000

The above must be considered as a tentative figure subject to the importance of the road being decided.

Trunk Roads—Class III—Summary

	£
(*a*) Kibwezi-Kitui-Thika … … … … …	28,000
(*b*) Ndolo's Corner-Garissa … … … … …	18,000
(*c*) Muhoroni-Songhor-Kapsabet … … … …	10,000
(*d*) Chweya's (Kisumu-Kakamega)-Kapsabet-Eldoret … …	9,800
(*e*) Kakamega-Mumias-Busia … … … … …	36,000
(*f*) Moshi (Taveta)-Voi … … … … … …	36,000
(*g*) Kisii-Suna … … … … … … …	11,500
(*h*) Sotik-Kisii … … … … … … …	12,000
(*i*) Lolgorien-Narok-Kijabe … … … … …	76,000
	£237,300
Carry to Summary—say	£237,000

MAIN TRUNK AND TRUNK ROADS

Summary of Estimated Expenditure

	£
Class I … … … … … … …	1,020,000
Class II … … … … … … …	638,000
Class III … … … … … … …	237,000
	£1,895,000
Reserve for a higher specification which may be required as a result of detailed investigation and for roads on which improvements are justified in the course of the programme	205,000
To General Summary—Total	£2,100,000

5. NORTHERN FRONTIER DISTRICT

There are 5,000 miles of roads or tracks in the Northern Frontier District, and the Public Works Department records classify the roads as follows:—

Trunk Roads, Class I … … … … …	1265 miles
Trunk Roads, Class II … … … … …	1041 ,,
	2306
Therefore, unclassified tracks amount to … …	2694 ,,
Total …	5000 miles

Rainfall is low in the Northern Frontier District, and the use of road plant would not be entirely satisfactory. The cost of suitable road plant would amount to probably £50,000.

It is thought that the only solution to the problem of the Northern Frontier District would be as follows:—

Trunk Roads—Class I	
Treat with a light bituminous treatment or stabilization methods to be carried out as a result of experiment.	
1,265 miles at £1,000 per mile	£1,265,000
Trunk Roads—Class II	
Improvements to shaping, surfacing and drainage. 1,041 miles at £500 per mile—say	520,000
Unclassfied Tracks	
2,694 miles at £50 per mile—say	135,000
	£1,920,000
Contingencies, staff, etc.	80,000
Total ...	£2,000,000

The above figure taken in conjunction with figures for the remainder of the Colony, and considering the population served, sounds absurd. The degree of importance of the District in respect of the bordering territories is obscure, as is also its strategic importance. No doubt supplies for the Africans must be transported by road, together with those for the Administration and Police. The District is in the first stages of development, and new schools, hospitals, prisons, etc., are proposed. If the Dixey proposals are accepted, the area will be further opened up. Again, roads are at present of vital importance for administration and maintaining order.

It will, I think, be a matter for consideration whether, instead of accepting an expenditure on the scope suggested above, consideration might be given to the use of light air transport for administration and defence on a large scale. The cost of landing strips would not be heavy, and there are in fact a number of existing landing grounds available. Subject to air transport proving feasible, a much reduced scheme for road improvements would be possible, but keeping in view the fact that supplies must generally be transported by road from railhead at Nanyuki.

I suggest, therefore, a tentative figure for road improvements in the Northern Frontier District of £250,000.

6. TURKANA ROADS

(*a*) Main roads—338 miles.

(*b*) District or strategic roads. Mileage unknown owing to the fact that certain roads for defence still remain.

(*a*) *Main Road.*

The main road from Kitale carried heavy traffic during the campaign and was always classed of strategic importance prior to the war. It is, of course, of much importance to the Administration. The road was improved to some extent during military operations, but still further permanent improvements should be carried out. As a tentative suggestion I propose, pending detailed investigations, an average rate of £100 per mile for improvements.

338 miles at £200 per mile	£67,600
20 per cent contingencies, staff and major plant	13,520
	£81,120
Say	£81,000

(b) District Roads.

Pending detailed investigations I propose a sum of £5,000 for improvements to these roads	£5,000
Total for Turkana roads—	
Carry to General Summary ...	£86,000

7. ROADS—DISTRICT COUNCIL AREAS

The Committee has already reported on the improvements proposed, and these amount approximately to £400,000.

District Roads—Machakos Area

It is likely that this district will adopt local government in the near future, and no doubt the 90 miles of roads involved will require to be brought up to a higher standard, together with improvements to bridges and drainage, as is the case in other District Council areas. The figure for road improvements in other District Council areas amounts to an average of £150 per mile, and this figure is therefore adopted for the mileage involved.

90 miles at £150 per mile	£13,500
Add 10 per cent contingencies	1,350
	£14,850
To Summary—say	£15,000

Sotik and Kericho District

As in the case of Machakos District, this district is likely to adopt local government in the near future, and the question as to whether or not improvements to existing roads are essential will have to be considered, and capital expenditure is also required for realignments to place roads once and for all on their correct alignments.

The existing roads are 71 miles in length, and adopting the same figure of £150 per mile for improvements of the surfacing and drainage, the amount required is	£10,650
Add 10 per cent for contingencies	1,065
	£11,715
Add for new roads—Sotik-Tenwick and Kivoga-Litein ...	4,000
	£15,715
To Summary—say	£16,000

Summary of Cost—District Council Areas, inclusive of Machakos, Kericho and Sotik

General	£400,000
Machakos	15,000
Kericho and Sotik	16,000
To General Summary	£431,000

8. TOWNSHIP ROADS OTHER THAN MUNICIPALITIES

Bituminous treatment, inclusive of kerbs, drainage, etc., 80 miles at £1,500 per mile	£120,000

LOCAL NATIVE COUNCIL ROADS

Central Province

South Nyeri: 80 *miles.*

Drainage, general improvements and replacement of bridges by permanent structures, at £40 per mile	£3,200	
Contingencies, 10 per cent	320	
	£3,520—say	£3,500

Embu.

Consist of the following:—

120 miles major district roads.

130 miles minor district roads.

95 miles minor tracks.

Allow 120 miles surfacing and drainage at £50 per mile to cover extra work on unsurfaced lengths	£6,000	
Bridging	500	
	6,500	
Add 10 per cent contingencies	650	
	£7,150—say	£7,000

Meru: 230 *miles.*

(*a*) Surface and drain 65 miles at £100 per mile	£6,500	
(*b*) Drain and improve 120 miles at £25 per mile	3,000	
(*c*) Realign 20 miles at £100 per mile	2,000	
(*d*) Replacement of bridges	5,000	
	16,500	
10 per cent contingencies	1,650	
	£18,150—say	£18,000

Kiambu.

67 miles improvement Reserve Trunk Roads at £50 per mile	£3,350	
59 miles Main Produce Roads at £40 per mile	£2,360	
59 miles Secondary Produce Roads at £30 per mile	£1,770	
57 miles Minor Roads at £20 per mile	£1,140	
	£8,620	
Add 10 per cent contingencies	862	
	£9,482—say	£9,500

The above includes for surfacing as required and drainage and replacement of bridges.

Fort Hall: 550 *miles.*

In this case the District Commissioner has not reported mileages road by road nor their importance. The report states that there are 11 foremen each in charge of approximately 50 miles of road.

Allow, therefore, 550 miles at £20 per mile	£11,000	
Add 10 per cent contingencies	1,100	
	£12,100—say	£12,000

The above amount to include surfacing and extra drainage where required, together with replacement of temporary bridges.

Machakos: 378 *miles.*

Allow average £30 per mile for general improvements; 378 miles at £30 per mile	£11,340	
Add 10 per cent contingencies	1,134	
	£12,474—say	£12,500

Kitui.

The District Commissioner reports only 93 miles in the annual allocation of funds to local native council roads, but states that other roads, length unspecified, are maintained by communal labour.

Allow say 100 miles at £30 per mile	£3,000	
Allow 100 miles at £20 per mile for communal roads	£2,000	
	£5,000	
Add 10 per cent contingencies	500	£5,500

Central Province Local Native Council Roads—	To Summary	£68,000

Extra Item.

Roads in Central Province within local native council areas for which funds are not provided:—

Nairobi-Garissa road to Tana River	17 miles.
Embu-Kitui link road	22 „
Kitui-Machakos road	33 „
	72 miles

Allow 72 miles at £20 per mile	£1,440—say	£1,500

Coast Province.

Voi (Teita): 163 *miles.*

These appear to be low class tracks judging by the allocation of maintenance funds. Pending investigations I suggest £30 per mile for improvements ... ... £4,890—say £5,000

Kwale (Digo): 107 *miles.*

Allocation as for Voi above.

107 miles at £30 per mile	£3,210—say	£3,200

Tana River: 52 *miles.*

As for Voi.

52 miles at £30 per mile	£1,560—say	£1,600

Kilifi (Giriama).

Mileage of roads not given by Provincial Commissioner, but on the analogy of maintenance funds, the length must be in the neighbourhood of 300 miles. Owing to traffic an allowance of £20 per mile appears justified.

300 miles at average of £20 per mile	£6,000
	£15,800
Coast Province Local Native Council roads ... ... say	£16,000

In addition there are a considerable number of roads within the above areas for which Local Native Council funds are not issued:—

Tanaland and Lamu areas.	
50 miles at £15 per mile	£750
Malindi area.	
10 miles at £15 per mile	£150
Kilifi area.	
30 miles at £15 per mile	£450
Kwale area.	
10 miles at £30 per mile	£300
Voi area.	
36 miles at £15 per mile	£540
Total Extra Local Native Council area roads	£2,190
To Summary—say	£2,200

Masai District: 190 *miles*.

The mileage given by the officer in charge is open to doubt and must be checked.

Allow for improvements at £30 per mile for 190 miles ...		£5,700
	To Summary	£5,700

Nyanza Province

North Kavirondo: 305 *miles*.

Allow tentative £30 per mile for improvements to 305 miles, bridging, surfacing and drainage	£9,150	
Add 10 per cent contingencies	915	
	£10,065—say	£10,000

Central Kavirondo: 231 *miles*.

Allow as for North Kavirondo £30 per mile for 231 miles	£6,930	
Add 10 per cent contingencies	£693	
	£7,623—say	£7,500

South Kavirondo: 240 *miles*.

Allow as for North Kavirondo £30 per mile for 240 miles	£7,200	
Add 10 per cent contingencies	720	
	£7,920—say	£8,000

Kericho District: 236 *miles*.

Allow £40 per mile for improvements to include surfacing, bridges and drainage; 236 miles at £40 per mile	£9,440	
Add 10 per cent contingencies	944	
	£10,384—say	£10,500

Kipsigis.

Provided under Kericho District.

Nyanza Province Local Native Council roads—

	To Summary	£36,000

Rift Valley Province

Nandi: 117 *miles*.

Allow £20 per mile for general improvements	£2,340	
Add 10 per cent for contingencies	234	
	£2,574—say	£2,600

West Suk: 44 *miles.*

Allow £40 per mile for general improvements	£1,760	
10 per cent contingencies	176	
	£1,936—say	£2,000

Baringo: 368 *miles.*

Allow £20 per mile for general improvements	£7,360	
10 per cent contingencies	736	
	£8,096—say	£8,000

Elgeyo (Tambach): 81 *miles.*

Allow £40 per mile for general improvements	£3,240	
Add 10 per cent contingencies	324	
	£3,564—say	£3,500

Samburu: 90 *miles.*

Allow £30 per mile for general improvements	£2,700	
Add 10 per cent contingencies	270	
	£2,970—say	£3,000

Rift Valley Province Local Native Council roads—

To Summary	£19,100

Local Native Council Areas—Summary

Central Province	£68,000
Central Province (outside scope of Local Native Councils) ...	1,500
Coast Province	16,000
Coast Province (outside scope of Local Native Councils) ...	2,200
Masai District	5,700
Nyanza Province	36,000
Rift Valley Province	19,100
TOTAL Local Native Council Areas to General Summary ...	£148,500
Say	£150,000

It must be clearly understood that all figures for Local Native Council roads are tentative and that the only method of assessing the requirements in a firm manner is to consider each road on its merits and to prepare detailed estimates after investigation and, if necessary, survey in each case, which would involve considerable work for which no staff is available at present.

Further, it is doubtful if anyone can assess the development in the reserves at the present time, which might entail expenditure much in excess of that computed.

General Summary of Probable Costs

	£
(*a*) Main Trunk and Trunk roads	2,100,000
(*b*) Northern Frontier District	250,000
(*c*) Turkana roads	86,000
(*d*) District Council areas	431,000
(*e*) Township roads (bituminous treatment)	120,000
(*f*) Local Native Council roads	150,000
(*g*) Reserve	63,000
Total ...	£3,200,000

The above expenditure could, it is anticipated, be spread over five years under normal conditions in respect of staff, labour, materials and plant. It is probable also that contractors within and from outside the Colony will be attracted and will therefore assist materially in expediting the work.

The question of staff for road and other works will be dealt with in a separate memorandum when the five-year plans generally have been accepted.

It should be borne in mind that on completion of the above programme it is likely that still further road improvements will be required with the development of the Colony, and no doubt a similar sum will require to be expended on the 14,000 miles of roads and tracks that now exist.

Appendix 6

REPORT OF THE EDUCATION SUB-COMMITTEE OF THE DEVELOPMENT COMMITTEE

To The Chairman, Kenya Development Committee.

1. The main concern of education during the post-war period must be, to quote the White Paper on Educational Reconstruction, "to ensure a fuller measure of education and opportunity for young people (of all races) and to provide means for all of developing the various talents with which they are endowed and so enriching the inheritance of the country whose citizens they are". The social and economic advance of the people of Kenya must in great measure depend on the degree to which the youth of all races can be trained to take their place usefully and intelligently in the life and work of the Colony in whatever environment their special characteristics and aptitudes make it appropriate for them to live. Education is, therefore, of paramount importance and the Colony must be prepared to face heavy expenditure if its real wealth, that is the talents, physical, mental and spiritual, of its people, is to be fully utilized.

2. We have, therefore, been faced with a dilemma. On the one hand there is the urgent necessity of expanding the Colony's educational services and on the other the obvious impossibility of financing any development programme such as that presented to us within the confines of the existing system of taxation. We have considered whether expenditure by the taxpayer could be reduced by making greater use of private enterprise and voluntary organizations than is the case at present. These organizations have their place and are bound to continue to have their place in the Colony's education system, but only the State can ensure that the educational facilities provided are distributed fairly among the various sections of the community. Moreover, the dependence of the future of the Colony on adequate educational facilities entails responsibility on the part of the Government to ensure that an adequate service is provided. As long as voluntary agencies can offer reasonable guarantees of continuity and quality of work, there is every reason to welcome their participation in education, if they so desire, but where these desiderata cannot be provided the State must, in our opinion, take a direct part in making the necessary facilities available.

3. The proposals in this Report will involve heavy expenditure, both capital and recurrent, from public funds. We are not in a position as a committee to deal in detail with financial considerations or to submit proposals for providing the necessary finance, though we appreciate that the programme will necessarily be limited by the amount of finance available, but, recognizing to the full the limitations which may be imposed by such considerations, we wish to offer certain general comments. It is, we submit, the accepted policy in these days that the cost of social services essential to the life of the community should be borne in part by the general taxpayer and not solely by the individual as and when he finds it necessary to avail himself of those services. Education is such a service and the eventual goal must be the provision of compulsory education at a minimum direct cost to the parent.

4. Although accurate statistics showing the distribution of the Colony's revenue between the various communities have not been available for our ex-

amination, we have little doubt that the European and Indian communities would both be able and willing to shoulder the recurrent cost of the expansion of these services, including education, in the manner already outlined. With the Arab and African communities, however, the picture is somewhat different and the problem becomes one of raising the standard of living and the income of the individual to a level where he is able to bear an increasing share of the cost of his social services. The problem is not merely, or even mainly, one of organizing educational services. Education must be intimately linked with general social progress and must neither advance so rapidly that it becomes an artificial growth out of all relation to society as a whole, nor be retarded to the extent where it cannot play its full part in social advancement.

5. We have endeavoured to form a more detailed and accurate picture of the finances of education than can be presented to the public in the Colony's Estimates. The figures shown in those Estimates for expenditure on the different branches of education do not, of course, give the whole picture. Approximately 1,500 European children are being educated in private schools without cost to the State. It is probable that the cost of educating these children amounts to £110,000 per annum. In Indian education there are 46 aided schools with a roll of over 5,000 children and on these schools, apart from Government grants, the community spends approximately £10,000 per annum. There are also 15 unaided schools with a roll of about 1,000 children and it is reasonable to assume that the cost of these schools to the community is between £3,000 and £5,000 per annum. In African education the Local Native Council Estimates for the current year show a proposed expenditure of almost £50,000 on recurrent services, while further sums amounting to almost £30,000 have been included for capital expenditure. Something in the neighbourhood of £50,000 is also spent on the aided schools, this revenue being derived for the most part from school fees, but it also includes local contributions and funds received by Missions from overseas. It has not been possible for us to obtain an estimate of the expenditure by the African community on the very large number of schools which receive no aid from public funds; the sum is certainly considerable.

6. It is with these general considerations in mind that we have examined the proposals put before us and if it appears that we are in fact recommending a programme beyond the bounds of financial practicability, we would emphasize that, unless a programme of this order can be put into operation, certain consequences of a most serious kind will ensue. In the first place it will be necessary in regard to non-natives to repeal the legislation relating to compulsory education. The result, in our opinion, would be that private enterprise would be stimulated to provide educational facilities which might often be of poor quality, with consequent detriment to the children. Similarly in regard to African education, the African population has become so education-minded as to render it certain that failure to undertake an adequate development programme would give rise to a growth of private schools with unqualified or semi-qualified teachers, in an endeavour to satisfy the desire of the community for educational facilities, without, in fact, being able to meet it with any reasonable degree of satisfaction.

7. In any programme which may be approved, first priority must clearly be accorded to the training of a considerable teaching staff in the Colony, with particular emphasis on an aspect which has received all too little attention up to the present, namely, the education of women and girls, because the standard of living of the community must be dictated largely by the standard adopted by the women. This applies particularly to African education, but it also applies to other branches.

8. Again, the close supervision of all branches of education by experienced educationists is of fundamental importance and adequate headquarters administrative staff is necessary, together with a considerable supervisory staff in the field.

9. Finally, the rate at which additional accommodation can be constructed and brought into use must, quite apart from financial considerations, largely be governed by the output of trained teachers. Indeed, the building programme must be married to teacher output. The capital cost of a programme of this sort will depend very largely on the building standards adopted. We consider that the standards adopted should be the lowest possible compatible with the circumstances of each case, while at the same time maintaining functional efficiency. It may be possible to reduce actual expenditure below the figures given later in this Report, though we would emphasize that these figures are not firm.

EUROPEAN EDUCATION

10. The present roll in Government European schools is 2,095, while at the end of 1944 there were 3,388 European children in Government and private schools. In formulating any programme it must be borne in mind, on the one hand, that the European child population of the Colony is steadily increasing, that there is an increasing tendency on the part of parents to send their children to Government rather than to private schools, while, on the other hand, the provision of regular shipping services in the post-war period will no doubt cause a number of parents to send their children overseas for education. It is impossible to estimate with accuracy the effect of increased European settlement.

11. In all the circumstances we consider it reasonable that the Government should aim at providing during a five-year period educational facilities for approximately 3,000 European children, of whom some 1,200 would be in secondary classes. This involves a programme of the order indicated below. In studying this programme it must be borne in mind that the estimates of costs are tentative and have not been reviewed by the Public Works Department; they are, however, based on quotations from that Department for similar accommodation, and they could be reduced by some 40 per cent to 50 per cent were an attempt made to keep the cost of construction down to, say, £200 or £300 per pupil, according as to whether the accommodation is for primary or secondary education. The requirements are as follows, given in order of priority:—

New Kenya High School: A new school for 500 boarders and 100 day pupils estimated to cost	£315,000
Primary School in Nairobi: Additional boarding and tuition accommodation	£75,000

Additional boarding blocks, classrooms, science block, dining hall, staff quarters, etc., at the Prince of Wales School, and workshops	£75,000
New Primary Day School, Nairobi, for 360 pupils	£50,000
Additional accommodation at Parklands, Westlands and Kilimani Primary Schools	£50,000
Additional accommodation at the Eldoret School	£50,000

12. In addition, an urgent requirement is a teacher-training college and hostel for the production of women teachers. A free grant of £28,000 has been provided under the Colonial Development and Welfare Act; present indications are that the cost of the accommodation required will be of the order of £50,000, but we consider that such expenditure is out of line with the Colony's educational standards and we are of the opinion that every effort should be made to keep expenditure down to the original estimate of £28,000. It is not feasible to compare the degree of priority to be accorded to this school with the other schools mentioned above, as it falls into a different category. It is obviously urgent and would serve a useful purpose by the provision of careers as teachers for suitable local European girls.

13. It is not possible to give accurate figures of recurrent costs as these depend on a considerable number of factors which cannot be forecast with any degree of accuracy at the present time, e.g. cost of food, equipment, etc. In 1944 the average over-all cost per pupil in Government European schools was approximately £35 per head after making due allowance for revenue from fees. The growth in the school population and a decrease in the cost of living index may enable some reduction to be made and it is reasonable to assume an average net cost of £30 per pupil. This would entail recurrent expenditure of the order of £27,000 per annum over and above the present level. It should be noted that a good deal of the equipment in Government European schools will require to be renewed during the next five years.

14. In this programme we have envisaged the attendance of a number of children from neighbouring territories at Kenya schools. There can clearly be no justification for any subsidy from the Kenya taxpayer in such cases. At present such children pay the same fees as Kenya children, but no remissions are granted except at the request and expense of the Government of the territory in which the parents of the children reside. In addition, the Governments make a contribution towards capital expenditure, and such contribution entitles them to a specific number of places at each establishment. This procedure gives rise to administrative difficulties and we consider that it should be abandoned and that the following procedure should be adopted:—

(*a*) No child resident in one of the other East African territories should be admitted to a Kenya Government school except with the consent in writing of the Government of the territory concerned;

(*b*) that on a child being so admitted, the Government of the territory concerned will become liable to pay to the Government of Kenya a consolidated fee based on the average cost per head of boarding and tuition, including the interest and amortization of loan charges. Where buildings have been financed from revenue and not from loan, such charges should be deemed to be 3 per cent of the capital cost by way of interest and 2 per cent by way of redemption. To this total should be added 5 per cent to cover administrative overheads. This fee should be settled each year by the Government of Kenya in its sole discretion; it should not be subject to challenge by any of the other Governments; it could appropriately be based on the actual costs for the preceding year;

(*c*) it is then for the neighbouring Government to decide the extent to which such total fee should be recovered from the parent or defrayed from general revenue.

15. We have made no provision in the foregoing programme for technical training, as the number of European children required to make such a school an economic unit is unlikely to be forthcoming. We considered the possibility of the establishment of an inter-racial Polytechnic College, and in this connexion the following minute of a meeting of the Advisory Council on Indian Education held on the 14th September, 1945, was noted:—

> "Proposed by Mr. Sheth, seconded by Mr. Trivedi 'that this Council considers that there is a definite need for technical education at the secondary stage, that the demand justifies the immediate introduction of commercial training, and that, in order to provide data on which to base an estimate of the needs in respect of other subjects, Government should carry out as soon as possible a complete census of the population of the country'—carried unanimously.
>
> The Chairman agreed that the Department should inquire what facilities for technical training were available to Indian youths under the aegis of the Nairobi Evening Continuation Classes.
>
> He also agreed to ask the Directors of Education to consider at their next meeting the possibility of establishing, on an inter-territorial basis, a technical high school for Asians."

We consider that if neither of these proposals materializes it will be necessary to increase the provision for overseas bursaries to cover technical training. For the time being we consider that technical training should be secured by sending suitable boys to institutions of this kind in the United Kingdom, the Union of South Africa or elsewhere. We envisage ultimately expenditure of the order of £7,500 per annum on the provision of overseas bursaries.

16. To sum up, this programme of development will require capital expenditure of the order of three quarters of a million pounds and increased recurrent expenditure, including expenditure on overseas bursaries, of approximately £40,000 per annum.

AFRICAN EDUCATION

17. We have already referred in paragraph 12 above to the importance of teacher training. In assessing the Colony's needs in this respect we have had to make certain arbitrary assumptions in the absence of the necessary statistics. Taking the African population at 3½ millions and assuming that 3 per cent of the population is to be found in any one year of the school age group, we would find that there are approximately 100,000 children available for the schools in any single year. If provision is to be made for all children to receive education at least up to the end of Standard IV, this would mean

six years of education per child and we should therefore plan for 600,000 places in the primary schools of the future (these will take the place of the present elementary schools which do not carry education beyond Standard III). If we assume that the average size of a class is 35, approximately 17,000 teachers will be required; if we assume that the average length of service of a teacher is 10 years, 1,700 teachers would be required each year. We are aware that an average of 10 years service is on the low side, but it must be remembered that the average service of a woman teacher is exceptionally low as she normally marries early and thereafter her services are lost to the teaching profession, for some time at any rate.

18. In so far as secondary education is concerned, we assume that one-quarter of the children leaving primary schools will receive post-primary education. Mathematically, this would result in an annual requirement of approximately 200 secondary teachers.

19. To produce a staff which would provide bare literacy for all the African children of the Colony and would provide further education for a quarter of these, would therefore involve training something of the order of 2,000 teachers per annum. This would involve a very great increase in expenditure. A committee appointed by the Director of Education has formulated proposals which would involve the annual production of 1,074 elementary and primary teachers at the end of the five-year period, which represents something in the region of half the total number likely to be ultimately required. While the committee in question did not make the position clear, we desire to emphasize that the training of women teachers must receive priority.

20. These proposals involve 12 Government centres for the production of teachers, in addition to making full use of such facilities as can be offered by the Missions. These proposals would cost something like the following:—

12 Government teacher-training institutions costing ...	£532,000
Subsidies to Missions to extend their accommodation and provide further teacher training	£115,000
Permanent equipment	£28,000
Total:	£675,000

The recurrent costs of such institutions would ultimately reach a figure of about £140,000 at the end of the five-year period. This represents only a beginning. Parallel with the intensification of the production of teachers, expenditure would be incurred on the construction of new, and the expansion of existing, schools, both aided and Government. This would involve total capital expenditure of about £150,000, with recurrent expenditure of the order of £120,000 per annum at the end of the five-year period. Thus, for primary teacher training and primary schools we get figures of approximately £825,000 capital and £260,000 recurrent. We would point out that the capital costs of these institutions might be substantially reduced by the application of the principles referred to in connexion with capital costs for European education.

21. We have no doubt that expenditure of this order will be beyond the capacity of the Kenya taxpayer to pay. Indeed, the figures given are minima because a revision of terms of service is at present under consideration which

would involve additional recurrent expenditure of the order of £60,000 per annum at the end of the five-year period. If funds cannot be made available from other sources, such as the Colonial Development and Welfare Vote, the programme will have to be modified. If we could be given some indication of the extent to which funds are likely to be available, proposals for modification could be submitted. The effect of any extensive modification would be serious inasmuch as it would mean that facilities for acquiring literacy would be available to but a small fraction of the population, whereas there is an intense demand that it should be available for all. It would lead, as we have already indicated, to a growth of inefficient private schools, but it would also lead to grave social difficulties, because the present wide gap existing between the semi-educated minority and the uneducated majority would be maintained or might even be widened. Unless there can be a levelling up of educational opportunity and a raising of educational standards, with a consequent broadening of the basis of educated African society, disaster may follow.

22. As regards secondary and post-primary education, including provincial technical training centres for the production of trained craftsmen, provincial plans involve capital expenditure of about £350,000 and recurrent expenditure of £180,000. A limiting factor again will be the production of trained teachers. At present such production is limited by the facilities at Makerere, and unless Makerere students are available in sufficient numbers, European staffs are necessary. This again leads to expense. We consider that the expansion of secondary education must of necessity proceed more slowly than the provision of primary facilities, but if one-quarter of the output of primary schools is to receive further education, expenditure of the following order on secondary schools will be necessary by the end of the five-year period:—

Capital	£350,000
Annual Recurrent	£200,000

23. We have given consideration to the necessity for instruction in elementary agriculture in elementary schools and we were informed that in many cases school gardens are used for the purpose. We consider that this practice should be maintained where it exists, and that where it does not exist steps should be taken, when possible, to provide small school plots where suitable instruction can be given.

24. We wish to stress the importance to African society of making adequate provision for the education of Kenya boys at Makerere. We envisage that at the end of the five-year period, without any expansion in secondary educational facilities in Kenya, approximately 100 students from Kenya will be able to take advantage of Makerere's facilities at the end of the five-year period. This would involve recurrent expenditure of the order of £8,000 to £9,000 per annum. In addition, it is clearly necessary that an endowment fund for Makerere should be built up and we understand that the Government has accepted the principle of making an annual contribution towards the building up of such a fund, though it has not committed itself to the provision of any particular amount. Any such contribution is unlikely to be less than £5,000 per annum, so that we must envisage recurrent expenditure in respect of Makerere College of a minimum of £15,000 per annum.

25. We realize that the programme of African education which we envisage is one of considerable magnitude. We realize to the full that the extent to which it will be possible to put that programme into effect must necessarily be limited by financial considerations, though we are satisfied that it represents something in the nature of minimum requirements. The need and the demand for educational facilities for Africans are pressing and the pressure for such facilities to be extended to the whole of the African population will become irresistible. We would therefore deplore any material reduction.

26. Embarkation on a programme of this magnitude brings sharply into relief the present controversy regarding the incidence of expenditure as between the Government and local native councils. It is clearly impracticable for local native councils to assume responsibility for a programme of this magnitude, but it is nevertheless desirable that they should make an appreciable contribution towards the cost, both from the standpoint of maintaining local interest—and there is no subject on which local interest is more awake than the subject of education—and from the standpoint of the development of a sense of local responsibility. We suggest for consideration that responsibility for teacher training, for secondary and post-secondary education should be vested in the Government, but that responsibility for the development of primary education in rural areas should be vested in local native councils, the Government making appropriate grants towards the approved expenditure incurred by each council, bearing in mind that, in any decisions reached, one of the greatest difficulties is the lack of elasticity in local native council budgets. In the case of capital expenditure, it would be appropriate that the Government should assist local native councils to meet their share by according them facilities for raising loans on reasonable terms as to interest and redemption.

27. As regards primary education in urban areas, we consider that appropriate arrangements on a similar basis will have to be made.

ARAB EDUCATION

28. We envisage the construction of a new Arab Boys' Secondary School at Changamwe at a capital cost of about £25,000, involving recurrent charges of the order of £4,000 per annum. This school would in addition provide facilities for the training of teachers at an annual cost of about £2,500.

29. As regards primary education, we envisage two primary boys' schools in Mombasa, one girls' school in Mombasa, extensions to Malindi School, the construction of a school at Lamu and various village schools, involving capital expenditure of the order of £60,000 and recurrent of the order of £15,000.

30. In addition it may be expected that about ten Arabs will be able to take advantage of the facilities provided at Makerere at the end of the five-year period, involving recurrent expenditure at the rate of £850 per annum.

GOAN EDUCATION

31. We do not envisage the construction of any Government schools for the education of Goans during the five-year period. Recurrent expenditure on grants in aid to existing schools will probably have increased by something not exceeding £2,000 per annum at the end of the five-year period.

INDIAN EDUCATION

32. A very considerable growth in expenditure on Indian education must be faced. The Indian school population appears to be increasing by about 12 per cent each year at the present time. This figure cannot be taken as an indication of the growth of the child population, as contributory factors may be the increasing number of girls of all ages attending school and the effect of compulsory education for boys in some of the main towns. The total roll in Government Indian schools is at present approximately 7,500. In addition, some 6,500 were receiving education in aided private schools in 1944—later figures are not available. The number of pupils in Government schools has increased from 4,444 in 1939 to 7,500 in 1945, while the number in aided schools has increased from 4,650 in 1939 to 6,942 in 1944. These additional children have in fact been accommodated without any large building programme, but only at the cost of gross overcrowding. Many of the schools are running in double sessions to cope with the demand—a situation not confined to Indian education, but conducing to inefficiency.

33. We conceive that at the end of the five-year period as many as 20,000 Indian children will require education, but the number cannot be assessed with accuracy in the absence of those statistics which only an up-to-date census could provide. We have accordingly devised a Government programme which will provide facilities for about 12,000 pupils, leaving something like 8,000 to be accommodated in aided and private schools. This involves capital expenditure of the following order:—

School	Description	Approximate Cost
		£
Indian Girls' School, Nairobi.	New primary and secondary school for 700 girls	40,000
Primary School, Nairobi	New school for 700 pupils	36,000
Primary School, Mombasa	New school for 700 pupils	40,000
Nakuru	New primary school for 400 pupils	25,000
Eldoret	New primary school for 400 pupils	25,000
Thika	New primary school for 400 pupils	25,000
Fort Hall	New primary school for 150 pupils	10,000
Three additional Primary Schools for Nairobi	Each for 700 pupils	108,000
Four additional Primary Schools for Mombasa	Each for 700 pupils	160,000
Modern Secondary School, Mombasa	New school for 360 pupils	32,000
A.V.H.S., Mombasa	Science block and gymnasium	7,500
Kisumu	New school for approximately 600 girls	40,000
Teacher Training College, Nairobi	Tuition block for 30 women students	9,000
Training College, Nairobi	Hostel for 30 students	20,000
Training College, Nairobi	Tuition block, alterations to existing hostel and staff housing for male T.T., institution for 40 students	22,000
G.I.H.S., Nairobi	Science block	13,000
	TOTAL .. £	612,500

We must again emphasize that the estimates of approximate cost cannot be regarded as reliable, and ought to be reduced in the same manner as the estimates of expenditure in connexion with the programmes for other races.

34. It is most difficult to put the building requirements in a definite order of priority. The provision of accommodation has lagged so far behind the needs of the community that if it were possible to open all these new schools in 1946 they would be filled to capacity in a very short period of time.

35. As regards net recurrent cost, the average net cost per pupil in 1944 was £5-6-63. Without accurate census statistics it is not possible closely to estimate the net additional recurrent cost over and above present expenditure, but we believe that it may well be of the order of £25,000 per annum in respect of Government schools. No appreciable increase in the present recurrent cost of aided schools is likely to take place during the five-year period, as the necessary qualified teachers are unlikely to be available. Expenditure may, however, be expected to increase sharply after the five-year period, when qualified teachers are likely to become available in reasonable numbers.

36. The Advisory Council on Indian Education has recommended that compulsory education should be applied to girls between the ages of 7 and 15, provided that any particular community might have the option of contracting out in respect of girls over the age of 12. Acceptance of this recommendation would involve capital expenditure of the order of £180,000 on the construction of additional accommodation. We agree that provision for the education of Indian girls is of great importance because it is only through an improvement in the standard of living of Indian women that the standard of living of the Indian community generally throughout the Colony can be raised. We do not exclude the possibility of the programme we recommend being revised when the total amount of funds likely to be available is known, in order to ensure the development of this vital branch of Indian education. On the other hand, we are unable to agree that the provision *by the Government* of the necessary accommodation is as urgent as the provision of the accommodation listed in paragraph 33 above, and we therefore do not feel that it is practicable to enact the necessary legislation at the present time.

37. We wish to draw attention to the fact that the Advisory Council on Indian Education has recommended that, in addition, hostels should be provided at some of the leading schools, in order to provide accommodation for children whose parents live in the more remote townships and trade centres. It would, in our view, be reasonable for hostels to be provided on the following scale:—

Nairobi: 100 boys, and 50 girls.
Mombasa: 50 boys.
Kisumu: 50 boys.
Eldoret: 50 boys.

This would involve capital expenditure of the order of £80,000, and we feel that it is unlikely that sufficient funds will be available for this to be provided in the period under review, though we agree that the provision of such hostels would be highly desirable. We therefore suggest that the Indian community should be invited to arrange for the construction and maintenance of such hostels privately on a self-supporting basis.

38. There has been considerable pressure put on the Government over a period of years to assume responsibility for Indian private schools at present benefiting by way of grants-in-aid. We agree that it would be in the general interest for such schools to be operated under Government control, and we recommend that the Government should assume responsibility for them as and when financial circumstances permit, subject, of course, to consideration of the wishes of the communities concerned. The Director of Education will no doubt consult with the Advisory Council on Indian Education from time to time and make appropriate recommendations to the Government. As it is, in our opinion, definitely of a lower order of priority than the developments indicated in the preceding paragraphs of this Report, we do not feel able to make any specific recommendation in respect of the five-year period immediately following the end of hostilities. We would, however, observe that present salary scales for Indian teachers require review in order to ensure that both Government and aided schools can be staffed by fully qualified and efficient teachers. The tentative figures of cost indicated in this Report make no provision for such review.

GENERAL

39. In conclusion, we wish to stress that, while financial considerations have not been lost sight of, the proposals incorporated in the programme set out in the preceding pages have been formulated primarily with the object of determining what, in our view, represents the essential requirements of the various communities. The figures are based on maintenance of the present structure of fees and costs, and any variation in either would have a material effect on the net cost to the taxpayer, but in this connexion we invite reference to paragraph 11 of the Report. Before a final programme of educational development can be devised, we consider that the Government should give a clear indication of the total sum likely to be available to finance capital expenditure during the five-year period, and also as clear an indication as is possible of the annual amount likely to be available to meet additional recurrent charges at the end of that period. The programme may have to be cut down accordingly, but the Government must be in no doubt regarding the effect of any curtailment on the life and standard of life of the various communities in the Colony.

40. Mr. J. F. G. Troughton, Financial Secretary, presided over all our meetings, but this Report does not bear his signature as he left the Colony on leave before it had been typed. Nor does it bear the Ven. Archdeacon Beecher's signature, as he, too, left the Colony before the Report was typed. Mr. R. S. Foster, former Director of Education, was a member of the Committee until the time of his retirement and attended the earlier meetings.

C. E. DONOVAN.
F. H. DE V. JOYCE.
*S. G. AMIN.

K. W. SIMMONDS, *Secretary*.
11th February, 1946.

* Subject to minority note.

MINORITY NOTE BY MR. S. G. AMIN

I cannot trust the figures given in paragraph 5 of the Report as no such information was, to my knowledge, discussed at the meetings of the Committee. I can, at any rate, state my opinion that it is fantastic to suggest that the European community spends £110,000 annually on 1,500 European children and that the Indian community manages to educate 5,000 children at an annual cost to the community of only £10,000. I regret I cannot subscribe to such misinformation being incorporated in this Report.

I disagree with the conclusions contained in paragraphs 36, 37 and 38 of the Report.

I consider that the principle of compulsory education should be applied now to girls between 7 and 15 as it applies to boys.

Hostels for Indian pupils are urgently necessary and these must have priority over new hostels for European pupils, in view of the fact that in the past huge amounts have been spent by the Government for hostel accommodation for European pupils, while very little has been spent on hostels for Indian pupils.

I think that the European community might, with greater reason, be invited to arrange for the construction and maintenance of additional hostels for their children in view of what Government has already done for them in the past.

In regard to the schools established and maintained by the Indian community in townships and trading centres, there has been great pressure of public opinion over a number of years that the State should assume direct responsibility for them without delay. The community's effort deserves appreciation for its work in this connexion. The Government should in the next five years take over all the schools with the managements of which necessary arrangements can be made.

S. G. AMIN

APPENDIX

SCHEDULE SHOWING THE FINANCIAL EFFECT OF THE RECOMMENDATIONS OF THE EDUCATION SUB-COMMITTEE OF THE DEVELOPMENT COMMITTEE

1 Paragraph of Report	2 Details	3 Capital Expenditure	4 Increase in Recurrent Expenditure
		£	£
	EUROPEAN EDUCATION		
11	New Kenya High School (500 boarders and 100 day pupils)	315,000	
11	Primary School, Nairobi (Additional boarding and tuitional accommodation)	75,000	
11	Prince of Wales School, Nairobi (Additional boarding blocks, classrooms, science blocks, dining hall, staff quarters, workshops, etc.)	75,000	
11	New Primary Day School, Nairobi (360 pupils) ..	50,000	
11	Parklands, Westlands and Kilimani Primary Schools (Additional accommodation)	50,000	
11	Eldoret School (Additional accommodation) ..	50,000	
12	Female Teacher Training College and Hostel—		
	(*a*) Approved C.D. and W.V. Free Grant	28,000	
	(*b*) Additional cost on latest estimate	22,000	
13	Recurrent Expenditure—Increased expenditure per annum	—	32,500
15	Overseas Bursaries at £7,500 per annum	—	7,500
	TOTAL EUROPEAN EDUCATION .. £	665,000	40,000
	AFRICAN EDUCATION		
20	Twelve Government Teacher Training Institutions..	532,000	
20	Subsidies to Missions for Teacher Training	115,000	
20	Teacher Training—Permanent equipment	28,000	
20	Recurrent costs of Government Teacher-training Institutions in fifth year of five-year period ..	—	140,000
20	Construction of new, and expansion of existing, primary schools, both aided and Government ..	150,000	
20	Recurrent expenditure on primary schools in fifth year of five-year period	—	120,000
21	Increased recurrent expenditure consequent upon introduction of revision of terms of service and salaries of teachers—increase in fifth year of five-year period	—	60,000
22	Secondary and Post-primary Education—		
	(i) Capital Expenditure	350,000	
	(ii) Annual recurrent—total expenditure in fifth year of five-year period	—	200,000
24	Training of Kenya students at Makerere—Recurrent expenditure per annum	—	8,500
25	Makerere Endowment Fund—Kenya contribution per annum	—	5,000
	TOTAL AFRICAN EDUCATION .. £	1,175,000	533,500

APPENDIX

SCHEDULE SHOWING THE FINANCIAL EFFECT OF THE RECOMMENDATIONS OF THE EDUCATION SUB-COMMITTEE OF THE DEVELOPMENT COMMITTEE

1 Paragraph of Report	2 Details	3 Capital Expenditure	4 Increase in Recurrent Expenditure
		£	£
	ARAB EDUCATION		
28	New Arab Boys' School, Changamwe	25,000	4,000
28	Training of teachers at new Arab Boys' School, Changamwe	—	2,500
29	Two primary boys' schools at Mombasa, one primary girls' school, Mombasa, extensions to Malindi school, construction of school at Lamu and various village schools	60,000	15,000
30	Training of Arab pupils at Makerere (fifth year of five-year period)	—	850
	TOTAL ARAB EDUCATION .. .. £	85,000	22,350
	GOAN EDUCATION		
31	Grants-in-aid—Increased expenditure in fifth year of five-year period	—	2,000
	TOTAL GOAN EDUCATION .. .. £	—	2,000
	INDIAN EDUCATION		
33	New Indian Primary and Secondary School, Nairobi (700 girls)	40,000	
	(But revised estimate since report was drawn up is £63,400, involving an additional)	23,300	
33	New Primary School, Nairobi (700 pupils)	36,000	
33	New Primary School, Mombasa (700 pupils) ..	40,000	
	(But revised estimate since report was drawn up is £60,000, involving an additional)	20,000	
33	New Primary School, Nakuru (400 pupils)	25,000	
33	New Primary School, Eldoret (400 pupils)	25,000	
33	New Primary School, Thika (400 pupils)	25,000	
33	New Primary School, Fort Hall (150 pupils) ..	10,000	
33	Three additional Primary Schools for Nairobi (each for 700 pupils)	108,000	
33	Four additional Primary Schools for Mombasa (each for 700 pupils)	160,000	
33	New Modern Secondary School, Mombasa (360 pupils)	32,000	
33	Allidina Visram High School, Mombasa—Science block and gymnasium	7,500	
33	New School, Kisumu (approximately 600 girls) ..	40,000	
33	Teacher Training College, Nairobi—Tuition block for 30 women students	9,000	
33	Training College, Nairobi—Hostel for 30 students ..	20,000	
33	Training College, Nairobi—Tuition block, alterations to existing hostel, and staff housing for male T.T., institution for 40 students	22,000	
33	Government Indian High School, Nairobi—Science block	13,000	
35	Increased recurrent expenditure during each year of the five-year period	—	25,000
	TOTAL INDIAN EDUCATION .. .. £	612,500	25,000

APPENDIX

SCHEDULE SHOWING THE FINANCIAL EFFECT OF THE RECOMMENDATIONS OF THE EDUCATION SUB-COMMITTEE OF THE DEVELOPMENT COMMITTEE

1 Paragraph of Report	2 Details	3 Capital Expenditure	4 Increase in Recurrent Expenditure
	SUMMARY	£	£
—	European Education	665,000	40,000
—	African Education	1,175,000	533,500
—	Arab Education	85,000	22,350
—	Goan Education	—	2,000
—	Indian Education	612,500	25,000
	TOTAL .. .. £	2,537,500	622,850
	APPROVED COLONIAL DEVELOPMENT AND WELFARE VOTE SCHEMES		
—	Education of Women and Girls	91,000	89,000
[illegible]	Training Establishment for Indian Teachers, Nairobi	22,000	29,000
—	Agricultural Schools and Teacher Training Centres, Maseno and Embu	54,300	—
	TOTAL .. .. £	167,300	118,000

REPORT OF THE FORESTRY SUB-COMMITTEE OF THE DEVELOPMENT COMMITTEE

TO THE CHAIRMAN, DEVELOPMENT COMMITTEE.

1. We, the Forestry Sub-committee of the Development Committee, have the honour to submit our report.

2. You have suggested that we should regard as our main tasks—

(*a*) to consider what the ultimate objective of forest policy in Kenya should be;

(*b*) to indicate how far progress towards that objective could be obtained in a period of five years.

PART I

Our conclusions as to the ultimate objectives of forest policy in Kenya are stated in the following paragraphs:—

FORESTS A NATIONAL ASSET

3. Forests are a national asset and must be maintained, both for the improvement of the country itself and for the benefit of the people who live, and will live, in it. World-wide experience has shown that, with few exceptions and for a variety of reasons, privately owned forests are eventually destroyed and that it is, therefore, the duty of Government, in order to protect the people from their own improvidence, not only to retain under its own management a high proportion of the forests of the Colony, but to frame for that forest estate a long-range policy, based on its particular requirements, unaffected by political or other changes, and backed by stable finance.

4. Only by taking action on these lines can Government fulfil its obligations in respect of its forests to posterity.

RESERVATION OF FORESTS

5. Forest reservation must be continued until it covers not only all forests useful, or likely to be useful, for the timber they contain or can be made to produce, but also all forests, or potential forests, the protection of which is desirable for climatic reasons.

FOREST MANAGEMENT

6. At the earliest possible moment all forests must be brought under proper scientific management. This will be achieved by the preparation for each district of a detailed working plan, in which will be set forth prescriptions and programmes covering all protection, utilization, reafforestation and development measures considered necessary. Continuity of action, strict adherance to Government's policy and due regard to economy, will be ensured in these plans by their covering a 10-year period before revision and by their being sanctioned by Government before being brought into force.

PROTECTION FORESTS

7. It is essential that protection forests should be maintained and established wherever necessary in order that their climatic benefits may be fully effective.

FORESTRY OUTSIDE FOREST AREAS

8. All means must be employed to encourage forestry and the planting and care of trees throughout the Colony, whether on farms, native areas or elsewhere.

FOREST PRODUCTION

9. All forests must be brought to such a state of production as to ensure that a sufficient supply of timber and other forest products is available on a sustained yield basis to satisfy (*a*) the demands of the local population and industries, and (*b*) estimated export requirements.

EMPLOYMENT IN FORESTS AND ALLIED INDUSTRIES

10. Although clearly not one of the objectives of forestry, it must be realized that a progressive forest policy must result in the employment of a very largely increased number of persons in the forests and in allied industries.

PART II

11. We have stated broadly in Part I what we conceive to be the ultimate objectives of forest policy. We propose now to examine and comment on those heads in detail.

FORESTS A NATIONAL ASSET

12. We have no fear that anyone will question this statement and we consider it to be an indisputable fact. If this is accepted, the following extract from Professor Troup's book, *Colonial Forest Administration*, is well worth stressing:—

> "It should be emphasized that the duty of laying down a forest policy rests with Government; the Forest Department is merely the agency for carrying it out. Government should therefore take full responsibility for policy, once accepted, and should not place on the Forest Department the disagreeable onus of responsibility for unpopular measures resulting from policy laid down."

RESERVATION OF FORESTS

13. Most of the remaining unreserved forests lie in native areas. Hitherto the Forest Department has been able to reserve forest areas in native areas, with the agreement of the native authorities. We feel that it is essential that all remaining forest areas should be brought under the Forest Department control and we recommend that where agreement cannot be obtained, the powers existing under the Native Lands Trust Ordinance should be invoked to force the issue without delay.

14. We recommend further that elsewhere investigations should be set on foot to determine whether there is forest or land not in public ownership which should properly be included in the forest reserves. If such exists, consideration should be given to its acquisition and incorporation.

15. We recommend further that at the earliest possible date all forest areas should be proclaimed demarcated areas under the Forest Ordinance, 1941, Section 5, thus affording them the maximum immunity from alterations.

16. Generally we recommend that forest areas should not be looked upon as a pool of Crown land to be drawn upon as and when land for other purposes is required, to the detriment of the Colony's Forest Estate.

17. We should like to see this expression, "The Colony's Forest Estate" more frequently used. It emphasizes that forest reserves are the property of the Colony and not the preserve of the Conservator of Forests. We suggest that district and local native councils and other public bodies should interest themselves in forest management and be conversant with what is being done in regard to the management of the Colony's estate.

FOREST MANAGEMENT

18. Although some progress in the matter has been made in the 30 odd years since forestry was started in Kenya, an immense task remains to be completed before it can be said that all the reserves have been brought under scientific management.

19. The evidence presented to us with regard to working plans has impressed us both with the necessity for them and the very considerable amount of work which their compilation will demand. We have therefore thought fit to include the following notes in explanation of what they mean.

Working plans, in brief, contain full instructions as to exactly what must be done in all branches of forest work to ensure proper forest management. They must be approved by the Government. Various control forms are necessary yearly to show that the prescriptions of the plans are being carried out.

20. In the first place, the present forest districts, i.e. the geographical units which must be covered by separate working plans, must be reduced in size, increased in numbers and adequately staffed. Then the forests must be opened up with roads and paths, be divided into compartments both on the map and on the ground, and be thoroughly and systematically explored and stock-mapped. Next, as soon as the positions and dimensions of the different types of forest are known, the value of each one must be assessed by scientific methods and a permissible annual yield worked out for it, thus ensuring that only the interest produced by the area is exploited, while the capital remains intact. Finally, as far as preliminary measures are concerned, decisions have to be arrived at as to which of the natural forests are to be retained in that condition and improved; which are to be converted into plantations and which parts and proportions of the latter area are to be planted up with long-rotation, short-rotation and fuel species.

21. Only when these preliminary operations have been completed in a district is it possible to start exploitation deserving to be described as controlled and warranted to produce a sustained yield. In each case exploitation is closely followed by reafforestation, that operation taking the form of plantations in areas allocated for regeneration by that means, or of improvement fellings aimed at increasing natural regeneration of valuable species in forests that it is intended to keep in more or less their natural condition. In these latter forests natural regeneration will sometimes be augmented by group-planting.

22. Exploitation and reafforestation must be co-ordinated in each felling area by detailed felling-cum-regeneration schemes, the preparation of which will be prescribed in the working plans, and the plans will contain definite programmes for the systematic treatment, cleaning, pruning and thinning of all young trees.

23. The general aim of reafforestation operations throughout the Colony will be to produce a balanced crop, consisting partly of plantations, both of exotic and indigenous species, and partly of indigenous trees grown in natural conditions.

24. The above remarks summarize the operations that must be carried out systematically and under definite programmes in a forest being worked for valuable timber. Districts, however, will include not only forests of this nature, but they will contain also other areas, such as purely protective forests (some too remote for any exploitation to be contemplated); areas which have still to be afforested, and settled areas or native reserves, where departmental operations of some description (generally the formation and maintenance of experimental plantations, and the giving of help and advice) are considered desirable. In such areas, no less than in directly valuable forests, most operations be carried out under definite programmes and with adequate staff allotted to them.

25. Working plans also prescribe the operations, staff and equipment necessary for protection from fire and fire-fighting. Here, also, programmes must be drawn up, approved and adhered to.

26. The research branch is essential at a number of stages in these operations. For instance, the silviculturist will continue with the systematic taking of measurements in order to ascertain the rate of growth of the valuable indigenous trees. Without the results of such measurements it is impossible to calculate the permissible annual yield from any natural forest. In the same forests the best means of inducing natural regeneration of trees will also be studied. In connexion with plantations there will be a vast field for study. Among the problems in urgent need of solution being: the most satisfactory manner of dividing plantations into quality-classes, spacing of trees of different species in plantations, subsidiary species to be planted with cedar, best intervals of time for pruning and thinning cypress and degrees of pruning and thinning at each interval. All this cannot be decided in a short period and constant study is essential.

27. Working shoulder to shoulder with the silviculturist will be the soil chemist. His main line of study will be the inter-relations between soil cover and the underlying soil as affecting the nature of the organic matter, absorption of rainfall, soil stability and water-holding capacity. In particular, the effect of the conversion of natural broad-leaved forest to exotic coniferous plantations on the above-mentioned soil types must be a subject for his early inquiry. This research, which is partly of a fundamental nature, will be carried out in consultation with agricultural soil chemists working in the Colony.

28. In addition, he will give advice to forest officers on local current soil problems connected with variations in site quality, with a view to selecting the right species for planting in each locality.

29. The main problems facing the entomologist and mycologist will be those arising from the necessity to safeguard the very considerable investment that will be made by the Colony in the plantations of exotic species, in protecting them from disease and insect attack.

30. There should be no need to stress the absolute necessity in efficient forest management for good maps supplied to officers in sufficient numbers and in a form that will encourage the utmost possible use being made of them. At present there is an enormous leeway to be made up both in the field and in the office. We feel that an aerial survey of the whole Colony would help immensely in this respect. Such surveys will not only help to fill in the details of existing topographical maps, but also in discovering the interior composition of the forests. The latter is a matter of great present urgency.

31. To give authority to our statements regarding forest management, and to our later remarks regarding production, we would quote the following from a resolution passed by the British Empire Forest Conference in 1920 and subsequently confirmed in 1923 and 1928:

> "*Forest Policy.*—In view of the great importance to the Empire as a whole, as well as to each of its component parts, of producing a sustained yield of all classes of timber, and of encouraging the most economical utilization of timber and other forest products, and of maintaining and improving climatic conditions in the interests of agriculture and water supply, each of the Governments of the Empire should lay down a definite forest policy to be administered by a properly constituted and adequate forest service.
>
> *Survey of Resources.*—The foundation of a stable forest policy for the Empire and for its component parts must be the collection, coordination, and dissemination of facts as to the existing state of the forests and the current and prospective demands on them."

32. We are satisfied that all this work is necessary and recommend that branches of the department be instituted at the earliest possible moment to deal with working plans, silvicultural research, entomological, soil and pathological research, and surveys. We recomend that all the expenditure on these branches be borne by the Forest Department, although in the last two the work will be directed by the research branch of the Department of Agriculture and of the Survey Department.

PROTECTION FORESTS

33. While much of this report is concerned with production from the forests, we wish it to be fully understood that we have in no way overlooked the indirect benefits of forests as regards climate and water supply. We do not propose to enter into an argument on what may be a controversial matter, but we wish to record emphatically that we accept the general opinion of the forest and other authorities that forests do generally exercise a considerable indirect and beneficial influence on climate and water supply. We

recommend therefore that forests should be maintained and established wherever the preservation of soil and water demands that they should be. We understand that this is a responsibility of the Land and Water Conservation Committee. We further recommend that in all such cases there should be the closest collaboration between that committee and the Forest Department.

34. One of the results of a progressive forest policy is the raising of the national income, and this will not only be met from the productive side of forestry by growing forest products for sale; it will also be met by the indirect climatic benefits which forests generally confer on a country. Hence comes the need for maintaining and establishing protection forests wherever necessary.

FORESTRY OUTSIDE FOREST AREAS AND DEMARCATED FORESTS

35. This is in our opinion a most important matter. The Forest Department should be in a position to give advice, encouragement and instruction to all races in the matter of growing trees and in their protection, and assistance should be afforded by the provision of tree plants at cheap rates.

FOREST PRODUCTION

36. The forests of the Colony contain commercially valuable quantities of cedar, podo and cypress, which are classified as softwoods, together with a large variety of other species, mostly hardwoods, the uses of which need investigation. We understand that a research centre to deal with the question of the physical properties and potential utility of East African timbers is under active consideration by the East African Governments and we heartily support the establishment of such a centre.

37. We shall use the terms "softwoods" and "hardwoods" in this report, and to make it quite clear what we mean we quote once again from the late Professor Troup:—

> "The terms 'softwood' and 'hardwood' are in constant use in the timber trade. They refer less to the degree of hardness than to the origin of the timber and the use to which it is put. Softwoods are the produce of coniferous trees, whilst hardwoods are obtained from broad-leaved species."

38. Podo, the main softwood of the country, is a slow-growing tree and probably takes 120 years or more to reach maturity. It is possible, however, in the highland forests to grow, on a short rotation of 35 years, excellent softwood timber of cypress and pine. There is ample land within the forest reserves to grow these trees, their establishment is cheap and returns in timber large.

39. We consider that Kenya is in a unique position in East Africa to produce very large quantities of softwoods. The timber produced will be of great value to its population, and there is no reason why the operation should not be self-supporting and indeed eventually very profitable.

40. In Part III of this Report there appear estimated figures of cost and revenue, and we do not propose to go into them here, but in passing we would say that well managed forests produce for the State substantial revenue

and provide regular, well-paid and congenial employment for large numbers of people. We do, however, recommend that the organization of the Department should be built up round this productive side of its activities, so that the greater part of the Department's finance can be recoverable from the resulting sales of timber in the future. Before recommending to what extent this softwood production should be developed, we feel that we must endeavour to give an indication of what we believe the requirements of the country will be in years to come.

FOREST PRODUCTION AND LOCAL DEMAND

41. Because of lack of data we have found this question one of exceptional difficulty. It would seem that the local demand must be closely related to the population and that, if the probable consumption per head of population can be estimated, the area to be afforested or replanted each year can be calculated.

42. In more developed countries the consumption per head of population per annum is recorded, but it varies enormously and the figures do not provide a satisfactory guide to the solution of our problem. The variation in the consumption does not seem to be dependent on the existence of alternative sources of fuel or of alternative structural materials, such as stone or iron. It is difficult to know just what kinds of timber are included and on what basis the measurements have been made. For instance, some consumption figures include firewood. In illustration of this, we have noted that the late Professor R. S. Troup in his *Colonial Forest Administration*, 1940, page 194, records consumption in cubic feet per head per annum as follows:—

U.S.A.	228
Sweden	129
United Kingdom	15

I. J. Craib, in "State Afforestation After the War" (*Journal of the South African Forestry Association*), records consumption in Germany as 32 cubic feet per head per annum. The Forestry Commissioners in Great Britain record that in the United Kingdom the annual consumption per head of the population had increased from 3.5 cubic feet of sawn timber in 1851 to 11 cubic feet per head in 1911, or over 3.1 times in 60 years.

43. It would seem that the only safe conclusion to be drawn is that where ample supplies of cheap timber are available, consumption is high. We noted particularly that the authorities referred to do not state whether the figures given include exports, but in the case of the United Kingdom and pre-war Germany, exports, if any, would in any case be small.

44. In 1938 the consumption in the Union of South Africa was 5.5 cu. ft. per head per annum and according to advice received from the Union forest authorities, this figure may rise to 11 cu. ft. per annum by 1988. The Union is notoriously short of forest capital and before the war was in the habit of importing timber even for packing citrus fruits.

45. Before going further we wish to make it clear that when we refer to timber volumes in terms of cubic feet we mean cubic feet of round timber

(true measure). Standing timber in a plantation is always assessed in this manner and we therefore adopt that method in our calculations. For the purposes of this report we accept a conversion figure from round to sawn timber in the proportion as two is to one.

46. In this country Forest Department records show an apparent increase in consumption of 60 per cent in the 13-year period between 1925 and 1937, and that the annual consumption of timber per head of population (all races) was, apparently, about one-third of a cubic foot just before the war. This figure, however, refers only to timber cut in the Forest Reserves and timber imported into the Colony, and does not take into consideration cutting of which the Forest Department has no record, e.g. on farms and in native areas.

47. This latter category of timber, part of which is used in the form of poles and posts, is not inconsiderable in quantity. These casual sources of supply will tend to become progressively less as the development of the country intensifies, and protective fencing is extended. Consumers will be increasingly compelled to obtain their supplies from managed areas in which production will be recorded. This will tend to cause an increase in the apparent consumption. Further, as the standard of culture of the African improves, his consumption will rapidly increase. This increase will be accompanied by a drift away from round timber in the direction of sawn timber and of products made therefrom. We feel that if uplift and the raising of the standards of native life mean anything they mean a very great increase in his demands for cheap sawn timber. Hitherto he has used little of it.

48. If the Colony is to develop, its demands for timber must increase also. We are loath to build our estimates of timber demands in the future entirely on figures of the past. We envisage, as stated, a large increase in the native demand. This, we believe, will lead to one of the largest demands locally. Besides this, there will be the demands of a presumably increased European and Indian population. There are also the demands of secondary industries to be considered. We have no means of knowing what Military, Naval and Air Force establishments there will be in Kenya in the future, but should there be such, there is no doubt that they, too, will require considerable quantities of timber. We suggest that this matter should be investigated by the Government.

49. We estimate that, on the basis of the existing plantations and natural forests, and assuming a continuation of the planting programme on its present scale, there will be sufficient timber to provide in 1960 2 cu. ft. per head of the population as it will probably number at that date.

50. Taking all these factors into consideration, and bearing in mind the drive to establish industries of all kinds in Kenya, we recommend that plans be made to produce sufficient softwood timber to provide 5 cu. ft. true measure in the log per head of population per annum in 1980.

51. We have thought it advisable at this point, by way of illustration, to give an example of what can be manufactured from 5 cu. ft. of log. We have said that in converting, by sawing, the log into the manufactured article 50 per cent of the log volume is lost. From 2½ cu. ft. of sawn timber it is possible to make one plain chair (½ cu .ft.), one table, 4 ft. x 2 ft. (1 cu. ft.) and

one native frame bed ($\frac{1}{2}$ cu. ft.). It is in terms of articles of this size, therefore, that we envisage the yearly consumption per head in the future.

52. These figures are exclusive of fuel requirements, but should cover all foreseeable minimum local demands of softwood timber. It should be emphasized that we consider this to represent the minimum requirements of the internal demand. They can be revisable upwards as knowledge increases. We have based our recommendation on the minimum to ensure that the organization built up to produce it shall not be in peril of being cut down later.

FOREST PRODUCTION FOR EXPORT

53. If the forecasting of Kenya's future local requirements is difficult, the forecasting of the probable export demand 35 years hence to countries on the periphery of the Indian Ocean must be doubly so. That provision for an export trade is justified there seems to be little doubt when it is remembered that—

(*a*) some leading authorities prophesy an acute world shortage of softwoods in the not too distant future;

(*b*) the consumption of timber is increasing throughout the world;

(*c*) new uses for wood as a raw material for many synthetic products are being discovered;

(*d*) timber is a crop and not a wasting asset, and that when exporting it we are not exporting capital as when we export coal or iron. The export of timber entails the capital loss only of small quantities of potash, phosphorus, etc., which are probably soon replaced by the continuous natural disintegration of our soil.

Under proper forest management, the interest (annual growth) on the capital (the whole forest) only is cut. The capital should remain intact. With such wasting assets as coal, iron or oil the capital is exploited and cannot be replaced.

54. Whilst the above sets out the general position, it seems incumbent upon us to look into the possible export market for Kenya timber in detail. We note that the rate of growth of trees in Kenya is unusually rapid, the yield of timber per acre is normal and so far Kenya trees have been noticeably free from diseases and pests.

55. On the other hand, Kenya's main timber producing areas are in the highlands and average between 400 and 500 miles by rail from Mombasa, though railway rates have already been adjusted to some extent to offset this disadvantage. It should be noted that there need be no peak period for timber traffic, which should be an advantage from the point of view of the Railway Administration.

56. With regard to sea transport, rates have not been so satisfactory and at one time the difference in the cost of bringing timber from the Mississippi to Durban was not greatly different from the cost of taking it from Mombasa to Durban. In 35 years' time difficulties of this kind may have disappeared, in view of bulk export.

57. It must again be remembered that production of timber from well-managed plantations and forests served by hard surfaced roads and con-

taining a high yield per acre of sound, easily handled logs, will be much easier and cheaper than is the case in the Colony's forests now. There is no need to labour this point. The sawmilling industry under such conditions should be attractive to large capital and be equipped with large up-to-date plant, capable of turning out bulk supplies. Lower costs of production should considerably offset the disability, which the majority of Kenya's export commodities suffer, owing to the long rail haul to the coast. The business should be big enough to justify bulk shipments by sea. We do not, therefore, believe that transport should be an insuperable difficulty.

58. One of the more likely outlets for Kenya timber is the eastern part of Uganda. The climate of this district is unsuited to the growth of conifers, which in most countries represent between 85-90 per cent of the total sawn timber consumption. The present population of this area is about 2,100,000, and if the consumption per head of the population were to be the equivalent of 5 cu. ft. per annum, the total consumption would amount to 10,500,000 cu. ft.

59. It is not anticipated that there will be any demand from the west of Uganda, which will probably be served from plantations in the Kigezi area. It is unlikely that Tanganyika will buy much timber from Kenya, except in the areas around the shores of Lake Victoria, which areas are not the poorest parts of the Territory by any means. The eastern part of Tanganyika should be able to grow its own requirements on the slopes of Mt. Kilimanjaro and Mt. Meru.

60. We consider that there is every likelihood that if Kenya possesses cheap softwoods in bulk she will be able to dispose of a proportion of them to the countries bordering the Indian Ocean, particularly India, Ceylon and South Africa, the Indian Oceanic islands and probably the Middle East. We recommend that Government should address the Governments of all the countries concerned which are within the British Empire stating fully the potential productive capacity of Kenya and asking them whether or not they feel that their countries are likely to be interested in import from Kenya in the future. There is yet a further point in this matter of export. Kenya, it seems, is well placed strategically as a source of supply to the Indian Ocean countries. During the war the demands made upon her for timber have greatly exceeded the supply. We consider that the fact that Kenya forests could be made into a large potential storehouse of timber against a future emergency would be of very considerable interest to the Imperial Government in the United Kingdom, and we recommend that the Secretary of State should be fully informed of this.

61. Whilst it is manifestly impossible to make any accurate estimate of the timber to be exported so far ahead as 1980, it is evident that some target must be chosen and we have come to the conclusion that a reasonable figure on which to work is 5,000,000 cu. ft. per annum, excluding Uganda's needs

62. Before considering what the position should be in 1980, it will be of interest to consider the position as we think it will be in 15 years' time, viz. 1960.

63. In 1960 we estimate that the population will be about 4.35 millions in Kenya and about two millions in the eastern part of Uganda.

1960

64. Working on the assumption that consumption per head will have risen to 2 cu. ft. by that date, we have:—

	cu. ft.
Required for internal consumption	8,700,000
Required for export to Uganda	4,000,000
Required for export via Mombasa	2,500,000
Total required ...	15,200,000

65. It is now desirable to see what our indigenous forests and plantations can supply to meet this expected requirement. The Conservator of Forests estimates that in the five-year period 1956-60 the yield from coniferous plantations will be about 2,099,000 cu. ft. per annum, and in the period 1961-1965, about 8,531,000 cu. ft. It would appear that by 1960 the estimated requirements for internal consumption will be met, but if we are to build up an export trade we must rely on indigenous forests and intermediate yields from thinnings and plantations. There is insufficient information to enable us to say what proportion of the expected shortfall could come from indigenous forests. The paramount importance of producing working plans to rectify this state of ignorance is obvious. If only as a safeguard in case some disaster happens to the exotic plantations, some of the natural forest must be kept in production as a background to the exotics.

66. Although the state of affairs in 1960 is of interest, we must concern ourselves with the years 1980 and later, for the reason that very little can be done to influence the position in 1960, and only a little between 1960 and 1980. The results of any plan put into effect now will not be seen in their entirety until about 1980.

67. We estimate that the population of Kenya, now about 3.7 millions, will have increased to about 5.3 millions in 1980, and if the population of the eastern part of Uganda (now about two millions) increases in proportion (a doubtful supposition) it will then amount to 2.8 millions.

1980

68. If the export trade in 1980 amounts to 5,000,000 cu. ft. per annum the demand will then be as follows:—

	cu. ft.
Required for internal consumption	26,500,000
Required for export to Uganda	14,000,000
Required for export via Mombasa	5,000,000
Total required ...	45,500,000

69. As the latest measurements show that the yield from mature plantations is about 8,000 cu. ft. per acre at 35 years, it follows that 45,500,000 cu. ft. is the yield from 5,700 acres, and that it will be necessary to plant 5,700 acres in 1945 to meet the estimated demand in 1980. The amount to be planted each subsequent year will be 5,700 acres, plus an increment proportional to the estimated increase in population 35 years hence. We recommend that this target of production be adopted and that it should be the policy of Government to see that it is attained.

70. We have recommended above a set annual planting acreage to give eventually the minimum yield which we believe will be required in 1980. In theory this is unexceptionable. We have, however, pointed out that there may be a shortfall in production before then; the sources from which that can be made good we cannot at present entirely indicate.

71, We have come to the conclusion therefore that, rather than advocate a definite yearly planting acreage, we should recommend that planting be hurried on as rapidly as possible in order to achieve the acreage necessary to produce the required quantity of timber that we have recommended as necessary. We see the following advantages in this course:—

(*a*) It is not necessary to cut trees at 35 years. They can stand for a longer period, with consequent benefit to the yield and quality.

(*b*) An accelerated planting programme will give a great volume of early thinnings, thus alleviating any shortfall before 1980.

(*c*) If the planting is finished before the 35th year, and if it is decided at any time to increase the planting programme, the new programme can be tackled with greater ease.

(*d*) Even if the programme is speeded up, the staff will still be needed for maintenance when the programe is completed.

(*e*) The earlier the returns on the full programme, the sooner can overheads be written off.

EMPLOYMENT IN FORESTS AND ALLIED INDUSTRIES

72. Before proceeding to consideration of the question of employment as it affects the recommendations contained in this report, we should like to quote from page 40 of the Report on Post-war Forest Policy by H.M. Forestry Commissioners:—

> "In approaching this question we wish to make it clear that we regard the employment which is afforded as only incidental to and not the main object of afforestation. For efficiency in production, which is the ultimate test, it is necessary to take advantage of all useful labour saving devices. Nevertheless, forestry presents a useful and, in many cases, the only apparent means of developing parts of rural Britain."

73. The employment that results from forestry falls into two categories:—

(1) that employed on forestry itself; and

(2) that employed on its resulting industries.

74. It is very necessary that forestry should be recognized as a skilled and scientific profession. It is essential that appointments to the Forest Service should be made from men who have been trained for the post which they are to fill. The staff of the department, technical, statistical and clerical, must be adequate for the work to be done. It is, for instance, false economy to overload foresters with clerical work for which they are not trained, nor is it the work for which they are employed.

75. Conditions of pay, promotion and pension should be satisfactory and conditions in the forest services should not be less advantageous than in other allied departments, or in forest departments of comparable importance in other parts of the Empire.

76. In Part III a preliminary estimate of the staff of the department has been made.

77. There is another point which we think should be noted. The extended planting programme will require a considerable increase in native cultivation. In our view under proper safeguards it might be possible to utilize this fact to move portions of native communities from eroded parts of the reserve to the forest temporarily while their own land is being reconditioned.

78. All our recommendations for expenditure are based on the assumption that the system of employing squatters in forests will continue (and we recommend that it should in fact continue, since we are informed that it is an economic system in relation to forest management), though we wish to place on record our view (i) that it is essential that effective control should be exercised over the employment of "squatters" in forests; and (ii) that the control over squatters in forests should be of the same nature and on the same basis as the control of squatters in other areas. These principles apply equally to Forest Department "squatters" and "squatters" employed by forest licensees.

79. The putting of good land to productive purposes, the considerable addition to the food supply of the Colony from cultivation within the forests, the large employment given and the resulting forest products must all tend very definitely to raise the national income.

80. We feel that the designation of the head of the department should be changed from Conservator of Forests to Director of Forestry, for the work is no longer merely that of conserving what nature has provided, but of increasing the assets of the country and of directing their use.

81. With regard to the next succeeding section of this Report—Part III, Organization and Finance—we asked the Acting Conservator to draw up a statement showing what in his view would be the necessary organization, staff and finance required to enable the department to attain the target of production which we have set, and also to carry out the other objectives of forestry which we have enumerated. This statement is set out *in extenso* in Part III and, though we have not gone into it in detail, we accept it and recommend the proposals therein contained.

* FRANCIS SCOTT,
Chairman,
* H. M. GARDNER,
H. W. GILL,
B. R. HODDINOTT,
CHUNILAL KIRPARAM,
J. C. RAMMELL,
W. F. O. TRENCH,
Members.

K. W. SIMMONDS, *Secretary.*
30th January, 1946.

* Signed subject to Minority Reports at end of Part III.

PART III

ORGANIZATION AND FINANCE

Statement by the Acting Conservator

1. The following statement is based on the considered decisions arrived at at a conference of the Assistant Conservators of the Department, which was convened by me on August 14th and 15th, 1945, in Nairobi.

2. It will be appreciated that the time available for preparing this statement was limited. It is not, therefore, suggested that what follows can be considered to be the final word on the subject. It is believed, however, that it provides, as far as can be foreseen at present, a reasonable picture of what will be required by way of staff and finance to carry out the policy enunciated in the sub-committee's report. It will only be possible to give more accurate estimates when the enlarged organization has been working for a little while and when a working plan has been written for each district.

3. In view of the uncertainty of the staff position no attempt has been made to draw up any scheme of progressive expansion. The only staff which has been shown is that which it is believed will be necessary, together with the ancillary services, such as housing, mechanical plant, roads, etc. Though this may seem to be a *de novo* approach it is not in the long run far out, owing to the fact that existing houses are nearly all due for renewal, there is little mechanical plant and virtually no roads. The research, survey and working plans branches are mostly new proposals.

4. The organization proposed, its estimated cost and average yearly expenditure over 35 years has been stated. No interest charges on land have been considered.

5. It is estimated that 10 divisions and 57 districts will be ultimately necessary. Of these districts it is estimated that 45 will be productive in the sense that they will each contain areas of cypress in sufficient quantity to keep an up-to-date mill in permanent production with a minimum cut of about 500 tons of sawn timber per month. The other 12 districts will be productive to a greater or lesser extent, but not in cypress.

6. The organization proposed will cover the productive and unproductive forests in the Colony. It will enable the department to produce the timber postulated in the report and to attend also to the unproductive and protective side of the department's activities. As time goes on some increase may be found desirable, but it is not expected that this will be great.

7. It may appear at first sight that the increase in establishment is excessive. It must, however, be pointed out that the present establishment of the department is totally inadequate in all branches to do the work to which it is already committed. In this connexion I would mention the fact that in 1930 Mr. J. W. Nicholson, at that time Forest Adviser to the Governments of Kenya and Uganda, recommended an establishment of 27 foresters for the Kenya Forest Department. The research, survey and working plans branches are necessary now, and it is estimated that if the Forest Estate is to be properly administered, without such a large increase in production as the report recommends, not less than 30 districts are already needed. The

greater part of the clerical staff estimated for is also needed now to allow of efficient working. Taking everything into consideration, the department as constituted to-day can hardly act as an efficient caretaker. It should be noted that the overhead costs are the most expensive part of the estimates. They have been calculated on salaries ruling at the present moment. The labour costs are comparatively small and, provided overhead staff is adequate, extension of planting would be cheap. After the plantations have been established there will be little, if any, cutting down of staff, which will still be required for routine management.

The yield of cypress plantations has been set at 8,000 ft. per acre in 35 years, including thinnings. This conservative figure makes allowance for accidents such as epidemics, fires, etc. It is considered that one forester can manage 5,000 acres of such plantations in addition to other work in surrounding natural forest. The sustained yearly intake of logs to a mill from such a block would be about 1,000,000 cu. ft., or a monthly output of sawn timber of about 1,000 tons. An output of even half of it would fully justify the existence of a well equipped and up-to-date mill working steadily to full capacity.

8. The royalty from cypress is based on the present day rate of 20 cents per cu. ft. This is half the existing royalty on podo and is probably lower than may be expected.

9. Until the plantations are established native cultivation will be mainly on a large scale to facilitate planting. Thereafter, gardening rather than farming will be practised. A cottage labour force permanently resident in a district, grouped round villages with commonage grazing facilities, will be established.

10. Up to date the department has virtually had no road programme. It has relied greatly on licensees to construct roads which it has eventually taken over and improved slightly to an earth standard. It is considered that this is a wrong policy and it is proposed that the department shall in future make and maintain its own roads on the estate. It would then be legitimate to charge licensees a toll for usage of the roads, which would therefore contribute to their cost. For the purposes of this statement it has been estimated that a yearly revenue, equal to half the total cost of construction and maintenance, will be collected. This may be a low figure.

11. The fact that the department is a revenue-earning one must not be forgotten. The greater part of its activities are directed to permanent production of a commodity essential to the country's economy. Forests should not be a wasting asset. Although considerable finance is asked for, the department is one of the few forest departments which are in a position to return eventually a major portion of their expenditure in revenue, as well as the products which it is their object to provide.

12. The table at the end of this statement gives some indication of the financial position for 70 years. Forestry is a long-term project and must be viewed in that perspective. It is suggested that the economy of the department be based on the care of its productive revenue-producing side.

ESTIMATED COSTS OF ESTABLISHING AND MAINTAINING A DISTRICT

	Extraordinary £	*Recurrent* £
(1) *Staff and Labour.*		
(*a*) *Staff*—		
Forester: 1 at £400 p.a.		400
African clerk: 1 at Sh. 80 p.m.		48
African A.Fs.: 5 at Sh. 80 p.m.		240
Forest Guards: 3 at Sh. 40 p.m.		72
Kangas: 9 at Sh. 18 p.m.		97
Dresser: 1 at Sh. 80 p.m.		48
Headmen: 5 at Sh. 25 p.m.		75
		£980
(*b*) *Labour*—		
Squatters: 75, 10 months at Sh. 15 p.m.		563
Casuals: 25, 10 months at Sh. 20 p.m.		250
		813
(2) *Stores and Tools.*		
Estimated expenditure		100
(3) *Roads.* Estimated Expenditure—		
(*a*) Extraordinary (Construction) average figures:		
Roads of access, 5 miles at £100	500	
(Half cost; the other half being paid by farmers, etc.)		
Departmental intra-reserve roads, 30 miles at £200	6,000	
(*b*) Maintenance—average costs:		
Roads of access, 5 miles at £5		25
Roads, intra-reserve, 30 at £15		450
	£6,500	£475
(4) *Mechanical Plant.*		
(*a*) Extraordinary—		
Purchase of 1 lorry, cost and depreciation	500	125
Purchase of 1 vehicle (truck, jeep, etc.)	300	75
(*b*) Maintenance—		
of lorry		300
of other vehicle		150
	£800	£650

	Extraordinary	Recurrent
	£	£
(5) *Buildings.*		
(*a*) Extraordinary—		
Forester's quarters	1,000	
Clerk's quarters, 1 at £100	100	
Asst. Foresters' quarters, 5 at £100 ...	500	
Headmen's, Dresser's, Forest Guards', Kangas' Rondavels: 18 at £40 ...	720	
Village Centres for squatters' villages	1,500	
Housing of casual labour	750	
District Office	200	
(*b*) Maintenance at 10 per cent of original cost		480
	£4,770 ...	£480
(6) *Water Supplies.*		
(*a*) Extraordinary	1,500	
(*b*) Maintenance at 5 per cent of original cost		75
	£1,500 ...	75
(7) *Costs of Uniforms.*		
5 Asst. Foresters, 3 Forest Guards, 9 Kangas—17 at £3 each per annum ...		51
(8) *Purchase of Live Stock.*		
Estimated annually per district		10
(9) *Contingencies.*		
Including: Local travelling and Transport, Travelling Allowances, Telephones, etc.		100

SUMMARY OF ABOVE TOTALS

	Extraordinary	Recurrent
	£	£
Staff	— ...	980
Labour	— ...	813
Stores and Tools	— ...	100
Roads	6,500 ...	475
Mechanical Plant	800 ...	650
Buildings	4,770 ...	480
Water Supplies	1,500 ...	75
Costs of Uniforms	— ...	51
Purchase of Live Stock	— ...	10
Contingencies	— ...	100
	£13,570 ...	£3,734

(10) *Cost of Establishing and Maintaining All Proposed Districts.*

It is estimated that the cost of establishing all the 57 districts will be £13,570 x 57 equals £773,490, and that the average annual cost of maintaining them all will be £3,734 x 57, i.e. £212,838.

SUMMARY OF STAFF AND LABOUR

It is possibly of interest to record the total numbers of staff and labour who will be employed in the districts when all those proposed have been found. The figures are:—

Staff—Europeans:	Foresters in charge .	57		
Africans:	African clerks ...	57	1,368	7,068 Africans in districts only
	African Asst. Fstrs. .	285		
	Forest Guards ...	171		
	Kangas	513		
	Dressers	57		
	Headmen	285		
	Squatters and Casuals	5,700		

ESTIMATED COSTS OF ESTABLISHING AND MAINTAINING DIVISIONAL OFFICES

(1) Costs for one division.	*Extraordinary* £	*Recurrent* £
(*a*) *Staff*—		
Assistant Conservator of Forests: 1 (average pay per annum)		720
Asian clerk: 1 (average pay p.a.) ...		200
Asian Assistant Foresters: 2 at £200 p.a.		400
(*b*) *Mechanical Plant*—		
Light tractor and grader, costs and depreciation	1,000	250
Light tractor and grader, maintenance		150
(*c*) *Buildings*—		
A.C.F's quarters	1,200	
A.C.F's Office	200	
Asian clerk's quarters	500	
Asian Asst. Forester's quarters: 2 at £250	500	
Maintenance at 10 per cent ...		240
(*d*) *Contingencies*—		
Including L.T. & T., Travelling Allowances, etc.		250
	£3,400 ...	£2,210
(2) Costs for 10 divisions (*see* para. 8 (1)) ...	34,000 ...	22,100
(3) Average costs for each of the proposed districts	597 ...	388

ESTIMATED COST OF ESTABLISHING AND MAINTAINING HEAD OFFICE AND SUBSIDIARY OFFICES

(1) *Head Office.*	*Extraordinary*	*Recurrent*
(*a*) Staff—*European*—	£	£
Conservator of Forests		1,200
Personal Assistant—S.A.C.F. ...		920
Accountant and Superintendent ...		660
Clerks: 6 at £360		2,160
Typists: 4 at £225		900
Forester, for seeds, plants & stores: 1		500
Works Superintendent: 1		480
Staff—*Asian*—		
Clerks: 13 at £200		2,600
Staff—*African*—		
4 at £35		140
Leave Reserves—		
Asst. Cons. of Forests: 2 at 720 ...		1,440
Foresters: 8 at 400		3,200
European clerk: 1 at £360		360
Asian clerks—		
H.O.: 3 at £250		750
Divisional: 10.		
Total: 13.		
African clerks—		
Districts: 53.		
H.O.: 6 at £30		180
Total: 57.		
		£15,490

(*b*) *Passages*—

Based on assumption: that A.C.Fs' return fare is £250 and Foresters' £200; that both sets of officers take leave every 4 years; that, therefore, ¼ of a passage can be debited against each officer annually; and that pre-war practice as regards families will be continued.

A.C.Fs.: 12 x £250 x ¼	750
Foresters: 57 x £200 x ¼	2,850
Families: 50 per cent of above	1,800
	£5,400

(c) *Long-leave rail fares.* Figures based on practice in the past:

		£
A.C.Fs.: 12 x Sh. 150 x ¼		23
Foresters: 59 x Sh. 80 x ¼		57
Families of above. Total of above x 3		240
Asian Asst. Foresters and Clerks—		
Asst. Foresters, Divisional ...	20	
Clerks	10	
Total clerks, H.O.	13	
Clerks' leave reserve ...	3	
	46 x Sh. 80 x ¼	46
Families: Total of above x 3		138
		£504

	Extraordinary £		Recurrent £
(d) *Mechanical Plant*—			
R.D. 7 Bulldozer, cost and depreciation	3,000	...	600
R.D. 7 Bulldozer, maintenance ...			800
Half-ton truck, cost and depreciation...	350	...	70
Half-ton truck, maintenance ...			150
	£3,350	...	£1,620
(e) *Miscellaneous*—			
Arboretum			250
Telephones			1,000
Purchase of seeds			700
Equipment	250	...	50
Contingencies, including L.T. & T., and Travelling Allowances ...			500
	£250	...	£2,500
(f) *Summary of above*—			
Staff			15,490
Passages			5,400
Long-leave rail fares			504
Mechanical plant	3,350	...	1,620
Miscellaneous	250	...	2,500
	£3,600	...	£25,514
Cost per district if above totals are equally divided between the 57 proposed districts	63	...	447